

An Introduction to

DERMATOLOGY

NORMAN WALKER

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AN
INTRODUCTION
TO
DERMATOLOGY.

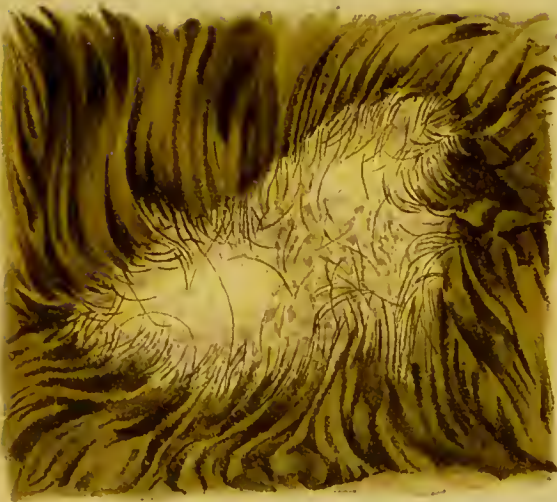
Frontispiece.



RINGWORM.



FAVUS.



LUPUS ERYTHEMATOSUS.



ALOPECIA AREATA

AN
INTRODUCTION
TO
DERMATOLOGY.

BY
NORMAN WALKER, M.D.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH;
ASSISTANT PHYSICIAN FOR DISEASES OF THE SKIN TO THE ROYAL EDINBURGH INFIRMARY

*WITH A FRONTISPIECE, 29 PLATES,
AND 31 ILLUSTRATIONS IN THE TEXT.*

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TO
THE MEMORY OF
SURGEON-GENERAL M. W. MURPHY, A.M.S.
(Formerly of the 80th, and 91st Regts.),
SURGEON-MAJOR FRANCIS HENRY SWINTON MURPHY, A.M.S.,
AND
SURGEON-CAPTAIN WILLIAM NORMAN MURPHY, A.M.S.,
MY
UNCLE AND COUSINS.

PREFACE.

THIS work is practically a reproduction of the lectures which for several years I have delivered to my students, and I venture to hope that they may be found useful by a larger audience.

It is to be noted that the title of the book is "An Introduction to Dermatology," and that it does not profess to be a complete system. I have described fully all the more common diseases, and less completely those rare ones which the ordinary practitioner is likely to meet with, while I have omitted, for the sake of space, those rare conditions which are mainly of interest to the specialist.

I have to acknowledge much help received from the writings, etc., of others. In the first place I owe a great deal to Dr. Allan Jamieson. I feel, indeed, that I have hardly done him sufficient justice in the text. Being so closely associated with him I have unconsciously absorbed much of his teaching, and I desire here to express my gratitude for all I have learned from him. It is, however, only right to make clear that the "new-fangled" ideas in the book are

my own, in particular, those on Eczema, Seborrhœa, Lichen, and Lupus erythematosus.

Another to whom, as is evident from my frequent references, I owe much is my friend, Dr. Unna. No one can write on the skin without frequently quoting his name, and we have been on such intimate terms for the last few years that I naturally do so more than most. He has been good enough to read and criticise for me the section on Seborrhœa; and his contribution to Eulenberg's "System," on the general Therapeutics of the Skin, which he was so kind as to supply me with while it was passing through the press, has been of much value to me in the preparation of that section.

To the published works of others I am much indebted, in particular to those of Hebra, Tilbury Fox, Erasmus Wilson, Crocker, Morris, and Liveing.

The microscopical drawings, with the exception of Figs. 1, 2, and the animal parasites, are from my own preparations, and they and all the coloured plates are the work of Mr. J. Grieve, to whom I desire to express my thanks for the care and trouble he has taken with them.

Of the photographs, while most are from my own collection, some are from friends, and are acknowledged in the text.

The University of Edinburgh has at last "recognised" a course of clinical lectures on Dermatology, and I trust that this work will do its share in imparting to the students that amount of systematic knowledge which is essential to a thorough understanding of the subject.

NORMAN WALKER.

7, MANOR PLACE,
EDINBURGH, *June, 1899.*

CONTENTS.

SECTION I.

	PAGE
INTRODUCTORY - - - - -	I
CLASSIFICATION - - - - -	6
DIAGNOSIS - - - - -	7
TREATMENT - - - - -	10
INTERNAL TREATMENT - - - - -	11
EXTERNAL TREATMENT - - - - -	13

SECTION II.

ANOMALIES OF SENSATION - - - - -	25
PRURITUS - - - - -	25
ANÆSTHESIA - - - - -	27
DERMATALGIA - - - - -	28

SECTION III.

ANOMALIES OF SECRETION - - - - -	29
HYPERIDROSIS - - - - -	29
CHROMIDROSIS - - - - -	31
ANIDROSIS - - - - -	32

SECTION IV.

ANOMALIES OF CIRCULATION - - - - -	33
ANGIONEUROSES - - - - -	33
URTICARIA - - - - -	33
HÆMORRHAGES - - - - -	37
PURPURA - - - - -	37
Purpura Simplex - - - - -	37
Purpura Hæmorrhagica - - - - -	38
PEDICULOSIS CORPORIS - - - - -	40

SECTION V.

TRAUMATIC INFLAMMATIONS - - - - -	43
DERMATITIS VENENATA - - - - -	44
TRADE DERMATITIS OR OCCUPATION ECZEMA - - - - -	45
DERMATITIS MEDICAMENTOSA - - - - -	46
FEIGNED ERUPTIONS - - - - -	48

	PAGE
NEUROTIC INFLAMMATIONS - - - - -	49
ERYTHEMA - - - - -	49
ERYTHEMA NODOSUM - - - - -	51
ERYTHEMA IRIS - - - - -	52
PELIOSIS RHEUMATICA - - - - -	53
ERYTHEMA MULTIFORME - - - - -	54
CHILBLAINS - - - - -	55
PRURIGO - - - - -	56
HYDROA - - - - -	58
DERMATITIS HERPETIFORMIS - - - - -	58
HYDROA GRAVIDARUM - - - - -	61
HYDROA VACCINIFORME - - - - -	61
PEMPHIGUS - - - - -	61
PEMPHIGUS VULGARIS CHRONICUS - - - - -	62
PEMPHIGUS ACUTUS - - - - -	64
PEMPHIGUS NEONATORUM - - - - -	65
PEMPHIGUS FOLIACEUS - - - - -	65
PEMPHIGUS VEGETANS - - - - -	66
HERPES - - - - -	66
HERPES FACIALIS - - - - -	66
HERPES GENITALIS - - - - -	67
HERPES ZOSTER - - - - -	68
INFECTIOUS INFLAMMATIONS - - - - -	71
<i>Inflammations of the Surface Epidermis (Cutaneous Catarrh).</i>	
SCABIES - - - - -	72
CHEIROPOMPHOLYX - - - - -	77
MILIARIA - - - - -	79
SUDAMINA, OR CRYSTALLINA - - - - -	80
IMPETIGO CONTAGIOSA - - - - -	81
PEDICULOSIS CAPITIS - - - - -	83
PEDICULOSIS PUBIS - - - - -	85
ECTHYMA - - - - -	85
ECZEMA - - - - -	86
LESIONAL VARIETIES - - - - -	96
Erythematous Eczema - - - - -	96
Oedematous Eczema - - - - -	97
Papular Eczema - - - - -	97
Vesicular Eczema - - - - -	98
Pustular Eczema - - - - -	100
Scaly Eczema - - - - -	100
REGIONAL VARIETIES - - - - -	101
Eczema of Scalp - - - - -	101
Eczema of Ear - - - - -	101
Eczema of Face - - - - -	102
Eczema of Eyelids - - - - -	102
Eczema of Lips - - - - -	103
Eczema of the Beard Region - - - - -	103
Eczema of the Neck - - - - -	104
Eczema of the Trunk - - - - -	104
Eczema of the Axillae - - - - -	104
Eczema of the Genital Regions - - - - -	105
Eczema of the Anus - - - - -	106
Eczema of the Legs - - - - -	107

	PAGE
Eczema of the Arms	108
Eczema of the Hands and Feet	108
SEBORRHŒA	109
ROSACEA	117
ALOPECIA SEBORRHOICA	119
PSORIASIS	120
PITYRIASIS	126
PITYRIASIS ROSEA	126
PITYRIASIS RUBRA	128
PITYRIASIS RUBRA PILARIS	131
ICHTHYOSIS	132

Inflammations of the Deep Epidermis (Glands and Follicles).

ACNE	136
ACNE VARIOLIFORMIS	142
SYCOSIS	143
FAVUS	145
RINGWORM	149
ALOPECIA AREATA	161
DISEASES OF THE NAILS	165
LICHEN PLANUS	167

*Inflammations of the Corium.
(Sero-fibrinous.)*

ERYSIPELAS	172
------------	-----

(Purulent.)

FURUNCULOSIS	173
--------------	-----

(Necrosing.)

ANTHRAX	174
GLANDERS	176
ACTINOMYCOSIS	176

(The Granulomata.)

RHINOSCLEROMA	178
YAWS	178
MYCOSIS FUNGOIDES	179
SYPHILIS	180
TUBERCULOSIS	185
LUPUS VULGARIS	185
SCROFULODERMA	196
ERYTHEMA INDURATUM SCROFULOSORUM	197
LICHEN SCROFULOSORUM	197
LEPROSY	198

SECTION VI.

NEW GROWTHS	205
-------------	-----

(Malignant).

CARCINOMA	205
EPITHELIOMA	205
RODENT ULCER	205
XERODERMA PIGMENTOSUM	210
PAGET'S DISEASE OF THE NIPPLE	211
MELANOTIC CARCINOMA	211
SARCOMA	212

	PAGE
(Benignant.)	
VERRUCA - - - - -	212
MOLLUSCUM CONTAGIOSUM - - - - -	213
MOLES - - - - -	214
FIBROMA - - - - -	215
KELOID - - - - -	216
NEUROMA - - - - -	217
ANGIOMA - - - - -	218
LYMPHANGIOMA - - - - -	218
ADENOMA SEBACEUM - - - - -	219
MYOMA - - - - -	220
CHONDROMA - - - - -	220
OSTEOMA - - - - -	220
CLAVUS - - - - -	220
ANGIOKERATOMA - - - - -	220
CORNU - - - - -	220
XANTHOMA - - - - -	221
Xanthoma Diabeticorum - - - - -	221
XANTHELASMOIDEA - - - - -	222
	223

SECTION VII.

RETROGRESSIVE CHANGES (Atrophies) - - - - -	224
LUPUS ERYTHEMATOSUS - - - - -	224
SCLERODERMA - - - - -	230
MORPHEA - - - - -	231
SCLEREMA NEONATORUM - - - - -	233

SECTION VIII.

MALFORMATIONS- - - - -	234
HYPERKERATOSIS CONGENITALIS - - - - -	234
HYPERTRICHOSIS - - - - -	234

SECTION IX.

SAPROPHYTES - - - - -	236
PITYRIASIS VERSICOLOR - - - - -	236
ERYTHRASMA - - - - -	237

SECTION X.

ANOMALIES OF PIGMENTATION - - - - -	239
EPHELIS - - - - -	240
CHLOASMA - - - - -	241
VITILIGO - - - - -	241

LIST OF ILLUSTRATIONS.

PLATES.

PLATE		FACING PAGE
	Frontispiece	
I.	—Erythema nodosum	52
II.	—Erythema bullosum	54
III.	—Pemphigus	62
IV.	—Zoster	68
V.	—Zoster	69
VI.	—Scabies	74
VII.	—Cheiropompholyx	78
VIII.	—Impetigo contagiosa	82
IX.	—Psoriasis	120
X.	—Psoriasis	122
XI.	—Pityriasis rosea	126
XII.	—Ichthyosis	132
XIII.	—Acne	138
XIV.	—Favus	146
XV.	—Ringworm and Kerion	150
XVI.	—Lichen planus	168
XVII.	—Lichen planus	170
XVIII.	—Actinomyces	176
XIX.	—Lupus vulgaris	186
XX.	—Leprosy, nodular	200
XXI.	—Leprosy, maculo-anæsthetic	202
XXII.	—Rodent ulcer	206
XXIII.	—Molluscum contagiosum	214
XXIV.	—Molluscum fibrosum	216
XXV.	—Keloid	217
XXVI.	—Xanthoma diabetorum	222
XXVII.	—Lupus erythematosus	224
XXVIII.	—Scleroderma	232
XXIX.	—Vitiligo	242

FIGURES IN THE TEXT.

FIG.		PAGE
1.	—Epithelial fibrillation	2
2.	—Sebaceous gland	4
3.	—Pediculus corporis	41
4.	—Erythema multiforme	50
5.	—Erythema iris	52
6.	—Dermatitis herpetiformis	59
7.	—Septic pemphigus	63
8.	—Herpes zoster	69

FIG.	PAGE
9.— <i>Acarus scabiei</i> -	73
10.—Norwegian scabies	73
11.— <i>Cheirpompholyx</i>	78
12.— <i>Miliaria</i>	80
13.— <i>Sudamina</i>	80
14.— <i>Pediculus capitis</i>	83
15.—Ovum of <i>pediculus capitis</i>	83
16.— <i>Pediculus pubis</i>	85
17.— <i>Eczema</i>	90
18.— <i>Pityriasis rosea</i>	128
19.— <i>Ichthyosis</i>	133
20.— <i>Acne</i>	138
21.—Comedo extractor	140
22.—Hair affected by <i>favus</i>	146
23.— <i>Favus scutulum</i>	147
24.—Ringworm, small-spored or mosaic variety	151
25.—Ringworm, large-spored or rosary variety	151
26.— <i>Alopecia areata</i>	161
27.— <i>Lichen planus</i>	169
28.— <i>Lupus vulgaris</i>	186
29.— <i>Lupus</i> , catarrhal	187
30.— <i>Lupus</i> , fibroid	188
31.—Rodent ulcer	208
32.— <i>Molluscum contagiosum</i>	213
33.— <i>Lupus erythematosus</i>	226
34.— <i>Lupus erythematosus</i>	227

AN INTRODUCTION TO DERMATOLOGY.

SECTION I.

INTRODUCTORY.

THE diseases of the skin do not differ in their processes from those of other organs. Like these the skin is composed of blood-vessels, nerves, connective tissue, and epithelial cells, and it is therefore liable to the same affections. The processes are of course, just as in other organs, modified by the special structure, and still further modified in the case of the skin by the circumstance of the tissue being exposed to view, and the processes being as it were one-sided. Further, from its external position the skin is more exposed to, and exposed to more forms of irritation than are the other organs. But the essential pathological processes do not in any way differ. It is necessary to elaborate this point because there is a tendency among students to regard skin diseases as something by themselves, some mysterious subject which it is necessary to learn *de novo*, in which the knowledge acquired in their other studies is of no, or comparatively little use.

As in the other organs, there are found in the skin congenital malformations, hyperæmia, anæmia, inflammation, hypertrophy and atrophy. New growths are found in large numbers; and parasites, using the term in the coarser sense, also infest it. Most of the diseases, however, come under the class of inflammations, and may be produced by an immense variety of irritants, to some of which (*e.g.*, heat, cold, light, friction, etc.,) the internal organs are strangers. One thing

especially is peculiar to the skin, viz., the sensation of itching, due to some irritation of the minute nerve ends, which convey to the centres a sensation short of pain.

It is necessary to say a few words on the structure of the skin. It is divided into the epidermis or cellular layer, along with which should be reckoned its derivatives, the hair follicles, hairs and nails, sebaceous, and sweat or coil glands; and the corium or true skin, with its vessels and lymphatics. The epidermis is divided into several layers. Reckoning from without inwards, we have the *Stratum Corneum* or horny layer, the *Stratum Lucidum* or clear layer, the *Granular Layer*, the cellular or *Prickle Layer*, and the *Germinal Layer* (also known as the palisade layer from the regular arrangement of the cells). All these layers are important.

The **Germinal Layer**, in which growth occurs, consists of small, regularly arranged cells, with here and there a mitotic figure. These cells contain varying amounts of pigment according to the colour of the skin.

Following this is the **Prickle Layer**, and on the structure of this our views have recently been considerably amended. The earliest idea was that these cells, larger than the germinal ones and polygonal in shape, were fitted into each other by a series of teeth (the prickles), dovetailing into one another. It was then observed that the prickles did not fit into each other, but met end to end, and they were then described as inter-cellular bridges, through the arches of which flowed the

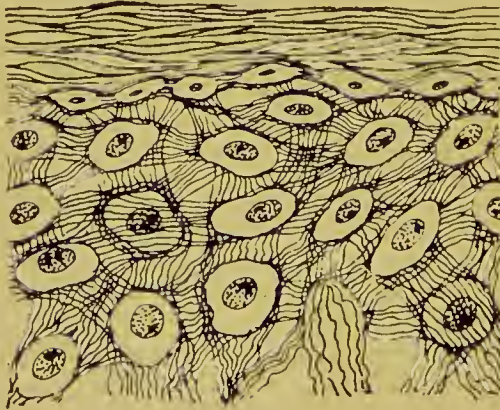


Fig. 1.—Showing the Fine Fibrils of the Epithelial Cells (after Kromayer); $\times 600$.

lymph which nourished the cells. Most recent observations show that these prickles are not mere processes from the cell membrane for the purpose of keeping the cells separate, but

that they are fibres which pass from the nucleus of one cell, often through the nucleus of one or more cells, to join another nucleus at a distance. The connexion between the cells is therefore much more close and intimate than was previously supposed (Fig. 1).

In the **Granular Layer** the cells are in section more elliptical in shape, and, when treated with any nuclear stain, certain granules in the protoplasm of the cell take the stain deeply, and thus give to it the granular appearance. These granules consist of a substance named keratohyalin, and form probably the first stage in the transformation of the protoplasm of the cell into the keratin or horny material of which the surface cells are composed.

The next layer, the **Stratum Lucidum**, appears in unstained sections as a clear streak without any evident structure. When carefully prepared, however, it also is found to consist of cells, somewhat swollen, and it is probable that the reason it does not usually stain is because the cells in that region are soaked with fat, into which the stain does not penetrate. Duhring and Unna regard it as really a portion of the horny layer.

The **Stratum Corneum** really consists of three layers. The lower layer, next to the stratum lucidum, like it contains a large amount of fat, and is seen deep black in sections treated with osmic acid. The cell elements are closely packed. Following this comes a looser layer, which seems to consist chiefly of cell membranes, with nuclei only here and there. The outer layer is more dense, the cells are closely packed together, and are constantly desquamating on their outer surface. This also is deeply blackened by osmic acid.

Along with the epidermis the appendages must be considered. They are all of them simply modified depressions of the epidermis. At an early stage of foetal life solid prolongations of the epidermis descend into the corium, and these are differentiated into the various appendages.

Thus a **Hair Follicle**, when it has grown a certain length down into the corium, is met by an up-growth, a little capillary loop, which forms the papilla of the hair. This, so to speak, turns the epidermic attack, and the cells in the centre are so modified as to form a hair. It is not of very great moment to commit to memory all the different layers, with the famous names which are attached to them, of the hair follicles. Enough is understood when the mode of their development

is borne in mind. While this represents the stronger type of hair, there is another form called the bed hair, where there is no papilla and no medulla, the modification having taken place earlier, and the hair having a shallow root.

The **Sebaceous Glands**, which are almost always attached to the hair follicles, are also mere prolongations of the epidermis, only the growth is more active, and the cells, instead of forming a hair, undergo a peculiar fatty metamorphosis which ends in their breaking down into the excretion which we know as sebum. At the border of the gland the cells are of the same type as those in the germinal layer of the skin,



Fig. 2.—Portion of a Sebaceous Gland; $\times 300$.

but as they grow towards the centre they enlarge, from the deposition of fat, often to ten times their original size. The shape of the gland depends upon the blood-vessels of the corium below it. As the epidermis grows downwards it is able to advance steadily against the fibrous tissue, but when in its advance it meets a blood-vessel, the blood-vessel prevails, and the epithelium divides and passes down on each side of it. This is the explanation of the lobulated character of the sebaceous gland.

The **Coil Gland** is developed in very much the same way, except that the process is narrower, and descends further into the corium. When it reaches a certain depth its growth downwards is arrested, and it increases in the form of the familiar coil. The duct is lined by one or two layers of cells, the coil by from one to three, according to its thickness. While the sebaceous gland opens with a distinct mouth, either on the surface or into a hair follicle, the sweat duct terminates at the germinal layer. From here a channel may be traced

between the cells of the epidermis, and may be seen in the well-known corkscrew form in the horny layer. It will be noticed that the expression "coil gland" has been recently used. The exclusive use of the term "sweat gland" is apt to ignore a very important secretion of those glands. It is many years since it was pointed out, but it has been largely forgotten, that the sweat glands, while they undoubtedly do excrete on the surface a watery fluid, are not concerned with that excretion solely. Indeed Unna attributes to the coil glands the principal share in lubricating the skin, and a properly conducted examination will never fail to discover in the lumina or cells of these glands a certain, sometimes a considerable amount of fat.* The coil is almost invariably placed in immediate relation to a lobule of fat, from which it probably derives substance, and the fact that the palm of the hand, where, if anywhere, perfect lubrication of the skin is required, contains no other glands but the coil glands, is a strong piece of clinical evidence pointing the same way. The amount of fat which is observed in the lowest horny layer can hardly conceivably be derived from the sebaceous glands, which open upon the surface with a distinct walled opening.

The connective tissue of the **Corium** is arranged in three layers. The lowest one, in which are often the roots of the hairs and some sweat glands, is loose, and the fibres are coarse. In the middle layer the fibres are firm, and closely arranged in horizontal bundles. The upper part of the corium is known as the *papillary body*, and immediately adjoins the epidermis. In it the fibres are much finer and their arrangement is more irregular, showing none of the horizontal stratification of the middle layer. The lymph spaces here are wide, or at least have an infinite capacity for widening, and here are found most of the deeper pathological changes in the more common diseases.

The **Blood-vessels** of the skin are distributed, roughly speaking, in two layers. At the lower border of the corium there is the deep plexus, sending branches to surround and supply the coil glands and hair papillæ. At the upper border of the corium, just where it passes into the papillary body, we have the superficial plexus, sending off processes into the papillæ, each of which contains a fine capillary loop.

* I was interested to find on looking over my notes of Prof. Rutherford's lectures that he fully describes this function of the glands

The **Nerves** of the skin are fascinating subjects for study. Their terminations may be traced into the Pacinian and Meissner's corpuscles, into and between the epidermic cells. They may be found in relation to the hair follicles, and in numbers around the coil glands. While, as has been said, they form an interesting study, their direct bearing on the diseases of the skin is obscure, and definite changes in them have only been found by a few favoured individuals, and not regularly even by them.

The **Muscles** of the skin are found mainly in relation to the hair follicles, where they take their origin. They are of the non-striped variety, and terminate high up in the corium, being attached to the connective fibres. Muscular fibres are also found in certain special situations, such as the scrotum and the nipple. Not of much importance pathologically, their contraction increases very much the sufferings of the patient when the skin in these parts is inflamed.

The structure of the *nails* is of such importance in connexion with their diseases that its consideration will be reserved for that section.

One more matter must be mentioned. The epidermis is not, as it would appear from the simple study of a section, attached to the corium by a sort of dovetailing. It is rather a continuous layer of epithelium into which numerous papillæ project, and the term inter-papillary processes which conveys the idea of a down-growth of epithelium into the corium is somewhat misleading.

CLASSIFICATION.

Classification is perhaps the greatest trial of everyone who has to teach dermatology. Malcolm Morris very truly says that "while it is a good servant it is a bad master," and to become a slave to classification more than undoes any advantages to be derived from it. Ever since dermatology became a science it has been the aim of its leaders to formulate a perfect classification, but we are still far from that desirable end. Some have classified diseases according to what are called the primary lesions, and put in one or another class diseases according as the primary lesions are papules, pustules, vesicles, bullæ, scales, etc.

Willan, the father of English dermatology, used a very similar classification, while Erasmus Wilson advised what he called a "clinical" classification, which comprised no fewer

than twenty-two varieties. While such a system may prove useful to the expert, it is of no value to the beginner.

The French school classed diseases according to supposed diatheses, some of which had to be created before they could be filled.

Hebra divided diseases on a pathological basis: Hyperæmia, Anæmia, Anomalies of secretion and exudation, Hæmorrhages, Hypertrophy, Atrophy, Neoplasms, Pseudoplasms, Ulcerations, Neuroses, and Parasitic diseases. While there is much in favour of some such method, it undoubtedly leads to some anomalous conclusions.

Some in despair have had recourse to the exceedingly practical plan of using the alphabet as their means of classification, and describing diseases under A, B, and C. Even if there were universal accord as to nomenclature, the plan is of little use to those who are not familiar with the diseases, and it is certainly not a method one would like to see generally adopted. A faulty system is better than none.

To my mind the best, though admittedly not perfect attempt at classification, is that followed by Unna in his "Histopathology of the Skin." It is at all events a more logical one than some of the others, which are too often regardless of the primary principles of classification.

While using it as the ground-work of this *Introduction to Dermatology*, I have found it necessary to modify it in two directions. Firstly, since Unna in his "Histopathology" deals only with disease as evident histologically, certain diseases have no place in his work, and secondly, it has been my experience that the diseases are more easily understood by the student when the modifications which I have ventured on are used.

It seems desirable to utilise our immensely increased knowledge of the causes of many skin diseases in making more easily understood their relation to one another.

DIAGNOSIS.

The diagnosis of any given case may be very easy, or it may be, for the time, absolutely impossible.

Dermatology is not practical chemistry (qualitative analysis), where, by adding various solutions, the student is enabled by a process of elimination to arrive ultimately at an absolute diagnosis.

There may still be in the possession of some, certain so-

called aids to clinical medicine which profess to teach the student to make his diagnosis. *Is there fever? Then it may be A, B, or C, it cannot be D, E, or F. Is there dulness of the chest? Then it may be A or B, it cannot be C.*

Dermatology can neither be taught nor learned in this manner. Accuracy of diagnosis can only be acquired by a wide knowledge of the various diseases affecting the skin, and by making ample use of the experience gained in each and every department of medicine.

To the student the subject appears a new one, for it seems to appeal almost exclusively to the eye, while the senses he has mainly been trained to use are touch and hearing.

While the eye is by no means our only aid (the sense of touch in many diseases, notably syphilis, being of very great value), a mere picture on the retina of the "pimple" on the skin does not advance matters very much. The picture on the retina must be conveyed to and analysed by the brain, while the eye must penetrate the surface of the "pimple" and divine the nature of the process present beneath.

It is unfortunately inseparable from the system, at present in vogue, of teaching dermatology in large over-crowded out-patient clinics, to avoid a certain amount of what may be called **visual diagnosis**. The trained eye becomes so familiar with the common types of disease that the reasoning process is performed automatically, and the diagnosis registered without going through with one's students the steps by which it is arrived at. Until dermatology is properly recognised as a "subject" and taught more systematically, the diagnosis of the newly-qualified man will be founded on an insecure basis.

"No opinion should be definitely pronounced until every portion of the eruption has been seen." We dermatologists all state this, but whether we all practise it is doubtful. Indeed it cannot be meant to be interpreted literally. It applies especially and mainly to those cases where there is something peculiar about the eruption, and it does not mean that, when a patient has typical patches of psoriasis on the legs and arms, those on the buttocks must also be inspected. But when there is anything about the eruption which strikes the observer as unusual, something which he is not perhaps very familiar with, or something which causes him to suspect some definite disease, then he must insist on seeing region after region until his suspicions are either confirmed or dissipated.

In searching for evidence of this sort the word of the patient must not be depended on, and a statement such as "there are no spots on my back," really carries no weight at all.

It has been said jocularly that in Vienna any statement made by a patient is considered as probably untrue, and the joke contains a modicum of truth which gives it point. Information obtained from the patient, if it is to be of any value, must be most carefully elicited.

There are two ways along which error lies. In one the patient intentionally or unintentionally misleads the observer by his replies, in the other the observer unintentionally misleads the patient by a series of leading questions. The poor old woman up from the country thinks it more polite to give the affirmative answer which the "Professor" so evidently expects. The mistake is so common that it may be well to illustrate it. Take a case of suspected Scabies. The proper questions to ask are: *Does the eruption itch at all? What time of day is the itching worst?* For contrast, the improper questions: *The eruption is very itchy, isn't it? Does it get worse when you take off your clothes at night?* The former question will really elicit information, the latter, in the class of patient referred to, might just as well be left unasked.

The first and probably the most important inquiry where there is any difficulty in the diagnosis, is: Is the case under treatment, and if so what is the treatment and how long has it been carried out? Both well-treated and ill-treated cases may be altered out of all semblance of themselves. Another important question is whether the present is the first attack. The questions which deal with matters of fact are the ones from which real information can be got, the description, even by the most intelligent, of the manner of commencement of their diseases, is in very many instances misleading or valueless.

All questions should be simply put; thus, on inquiry into a suspected case of urticaria, the lesions should be referred to as "things like nettle stings," and not as "white wheals."

When an eruption has a peculiar irregular look, especially if it occurs in a young woman, the possibility of its being self-produced should always be considered. The methods used by hysterical patients to produce eruptions are very varied. Nitric and carbolic acid are among the commonest, but of course any irritant or even simple continued friction may be employed. The lesions in such a case are irregularly dis-

tributed, and usually are *within the reach of the right hand*.

Drug eruptions too have often an unfamiliar look, and should be borne in mind when there is doubt about the nature of a case.

Syphilitic eruptions may closely resemble almost any skin disease. The difficulty is greatest in the case of the secondary rashes, when fortunately other evidences of the disease are always present. The observer should always have this possibility before his mind, but must not get it "on the brain."

A very important matter is the diagnosis of the infectious diseases from what may be called the "skin diseases proper." Thus erysipelas and acute eczema of the face, modified small-pox and acne, measles and the antipyrine rash, are all liable to be confused. In such cases the thermometer is an almost infallible guide. Of course coincidences may occur and the temperature be up accidentally, but it may be taken as a practical rule that when the thermometer registers high the more serious disease is present.

TREATMENT.

It is hardly necessary any longer to discuss the question as to whether diseases of the skin should be treated at all. Hebra's scathing satire on those who, unable to cure the disease, took refuge behind the theory that harm might result from interference, has had its effect and has driven this absurd doctrine from the profession. Even the laity seem wiser, and it is quite uncommon nowadays to hear the once familiar fears about "driving in," though one still hears now and again gratification expressed at an eruption "coming" or being "driven out."

Urticaria and purpura may attack both the skin and the mucous membranes, but we know of no means by which they can be driven from the one to the other. Tuberculosis is indeed the only disease which furnishes any grounds at all for the old objection, and these are chiefly theoretical. It cannot be denied that the scraping or scarification of lupus vulgaris (tuberculosis of the skin) does open a possible route for general infection. When one considers the thousands of cases where such operations are performed annually without any ill effects, the very slender nature of this risk may be appreciated. According to Unna a moist eczema of the head

of a child may so mask the early symptoms of tubercular meningitis that the cure of the eczema appears to be followed by the development of the more serious disease. From this however we learn, not that we should leave the eczema untreated, but that we should be on the outlook for such a complication. It is as absurd to act on the assumption that the skin only is diseased in any given case as to assume that every disease of the skin depends on some systemic disturbance.

Treatment in diseases of the skin resolves itself into internal and external, and the former may be again divided according as the action on the disease is direct or indirect.

I.—INTERNAL TREATMENT.

The treatment of the diseases of other organs on which skin affections sometimes depend will not be considered here. The treatment of dyspepsia, constipation or anæmia is exactly the same whether a patient has a disease of the skin or not.

There are however a number of internal remedies which are administered with the object of *directly* influencing the disease of the skin. Of these the most important is :—

Arsenic.—Like mercury, arsenic has had its ups and downs. The former, at first used with much success, was later so abused that its use was largely abandoned in disgust, and even yet some eminent authorities are in the habit of treating syphilis without its aid. Used with discrimination it is now recognised as an invaluable remedy, and one can only envy the therapeutic resources of those who can afford to dispense with its assistance.

Arsenic has not reached the same haven of security. Used at first no doubt in moderation, its administration became more and more wholesale, until in the middle of this dying century each and every disease of the skin was supposed to be amenable to its influence. Valuable in many diseases, it is positively injurious in others, and its reckless abuse brought about a reaction from which it has not yet recovered.

It cannot be too definitely laid down that arsenic is not a universal remedy for skin diseases ; it should be used in those diseases where it is known to be of value and in them only. It may be said generally that arsenic is useful in those bullous diseases which are admittedly neurotic in their origin (pemphigus, hydroa) and in some dry conditions, and injurious in the vesicular catarrhs of the skin (eczema), and in those associated with hyperkeratosis (acne).

Arsenic is almost invariably administered in this country by the mouth. Subcutaneous injection may be more efficacious, but it is not a method which appeals to the British public. Fowler's solution is the usual form in which it is prescribed. If an acid solution is necessary, the liq. arsenici hydrochlor. is substituted, or arsenious acid may be given in pills. The rules for its administration may be stated with comparative brevity: (1,) The case must be a suitable one; (2,) The patient's tongue must indicate that his gastric and intestinal functions are satisfactory; (3,) It must always be given after or during meals (it is sometimes necessary to dilute it freely); (4,) It should be given in gradually increasing doses until either (*a*,) the disease shows signs of yielding, when the dose need not be further increased; or (*b*,) the well known symptoms of arsenical poisoning (coated tongue, abdominal pain, or conjunctival irritation) develop, when it must be discontinued.

Antimony is recommended by some authorities in those cases where there is heat and tension of the skin, if the general condition of the patient does not negative its use. Jamieson gives the wine, ℥viij-xv, two or three times a day, and Morris gives ℥x-xij, repeated in an hour, and again if necessary two hours later. The interval is increased and the dose diminished until ℥vj, thrice daily are given so long as the acute symptoms last. Antimony is also found useful in some cases of lichen planus.

Mercury.—In addition to its action on specific disease mercury often has an action, almost specific, on lichen planus. While most commonly administered in this country by the mouth, inunction and subcutaneous injections bring the patient more rapidly under the full influence of the remedy, and should be preferred where time is of importance. In localised syphilitic lesions application of the drug in the form of plaster to the seat of the disease is very desirable.

Sulphur.—The former great reputation of this drug has grown dim, and internally administered it has only a limited use. Crocker recommends it in hyperidrosis, and it is occasionally useful in erythema multiforme when other methods have failed. The sulphide of calcium, grs. $\frac{1}{4}$ t.d.s., is sometimes brilliantly successful in the treatment of furuncle and indurated acne, while Duhring recommends the hypsulphite of sodium (gr. v-x t.d.s.) in urticaria and furunculosis.

Ichthyol possesses powers far beyond the sulphur which it contains. In urticaria it is probably our most dependable remedy, and in any case where the vessel-nerve relations are disordered it may be hopefully given. It should be administered to adults in capsules or palatinoids. Fortunately children do not usually object to its nauseous taste, and to them it may be given mixed with glycerin.

Salicylic Acid in its various combinations (sodii salicylas, salol, salicin and salophen), is a drug of proven value in all the erythemata; indeed for erythema nodosum it is virtually a specific. Many cases of erythema multiforme respond to it readily, but on others again it has no effect. Following Crocker's advice I have given it a fairly extensive trial in psoriasis, and while it has sometimes seemed of some value I have not found it nearly so useful as he has.

Quinine is often efficacious in those cases of erythema which do not respond to salicylates; it is useful in urticaria, especially if any malarial taint is present, and like Duhring I have found it to do good in lichen planus, though we administer it from different motives. Payne recommends its use in lupus erythematosus.

Iodide of Potassium no doubt has some influence on inflamed psoriasis when administered in sufficient quantity, but its chief field lies in its thorough action on the products of syphilis.

Alkalies are undoubtedly useful in many conditions, but they act indirectly, and not on the skin itself, and the indications for their use are found in the disorders of the other organs of the body.

Purgatives, preferably saline waters, should be given when required, but the hope of purging away the skin diseases is fallacious; the apparent improvement which results while the patient is reduced by the purging disappears when he regains his condition. This, of course, does not apply to the use of purgatives in cases of urticaria due to the ingestion of some poison, where a brisk cathartic is often the only treatment required. If such drugs are required, say in a case of eczema with constipation, there is probably nothing more satisfactory than the old fashioned Epsom salts made up in some way to suit the more fastidious taste of the present generation.

II.—EXTERNAL TREATMENT.

Since the causes of the vast majority of skin diseases are seated in the skin itself, the external application of some suit-

able drug is clearly the rational method of attacking them, while in many where the cause lies deeper external applications are of great value in moderating the symptoms of the disease.

It would occupy too much space to describe in detail the therapeutic action of the many and varied drugs which are of proven efficacy, while to do the same for every drug which is occasionally used would require a volume. Reference will therefore only be made to groups of drugs according to their action, while the vehicles in which they are applied will be fully considered.

Astringents.—The salts of lead (particularly the acetate), zinc (sulphate), and bismuth (sub-nitrate), alum and tannic acid.

Caustics.—Caustic potash, nitrate of silver, arsenious acid, the chlorides, chromic acid, and the acid nitrate of mercury.

Parasiticides.—*Animal.* Paraffin oil, sulphur, stavesacre, balsam of Peru, styrax, etc. *Vegetable.* All the salts of mercury, sulphur, iodoform, resorcin, salicylic acid, and many others, including many of the modern synthetic compounds.

Reducing Agents.—This term is applied to a whole series of drugs which have in common the power in a greater or less degree of taking oxygen from the tissues and of promoting the growth of healthy epithelium. Unna has given them the name of “kerato-plastic” remedies. This action is favoured by dilution. When used in concentrated form many of them have a destructive action on the epithelium. The most important members of the group are sulphur, salicylic acid, chrysarobin, ichthyol, resorcin, pyrogallol and tar.

The action respectively of the oxidised and unoxidised form of pyrogallol and chrysarobin make it a little doubtful whether all their good effects are due to reduction; some evidence tends one way, some another.

Anti-pruritics—tar, carbolic acid, cocaine, nicotine, hydrocyanic acid, etc.

METHODS OF APPLYING REMEDIES TO THE SKIN.

It is necessary to give fuller particulars of these, for in many cases where the progress is unsatisfactory, the error lies, not in the drug which is applied, but in the method of its application.

It is of first importance in treating any skin disease that all disease products should be removed. There are various methods of doing this. The part may be covered with strips of lint soaked in olive oil. On the scalp, if its use is not

contra-indicated, common paraffin oil, in virtue of its searching and penetrating powers, is of great value in removing accumulated scales and secretions. Hebra's ointment (lead plaster and vaseline pts. æq.), spread thickly on cloth is very efficacious, while its action on exposed areas of inflammation is favourable.

Boracie Starch Poultices, which are very favourite applications with some, are made as follows: One teaspoonful of boric acid is added to four tablespoonfuls of cold water starch, and mixed with a little water; a pint of boiling water is then stirred in, and the jelly which results is spread on cloth in a layer about half an inch thick. When cool a piece of muslin is laid over it, and it is applied to the part. In addition to its power of removing scales and crusts, this poultice is a valuable soothing application to inflamed surfaces.

Baths.—These are used with various ends in view. Where the skin is greatly inflamed a starch bath is very soothing. From a half to two pounds of starch is crushed and made into a paste with cold water, and the warm water from the tap should be caused to run into and overflow the vessel in which the paste has been made. The water must not be boiling otherwise the starch will "burst." Bran (lbs. 2-5), and gelatin (lbs. 1-3), may also be used to form a soothing bath.

Alkaline Baths.—The drying effect of the alkali on the skin should not be lost sight of in the temporary sense of well-being that a patient with an inflamed skin feels when in these baths. They are more suited for cases where there is some thickening of the skin, as in pruriginous conditions, and are made by the addition to an ordinary warm bath (25-30 gallons), of sodii carb. (ʒij-x); potass. carb. (ʒij-v); borax (ʒij-v) or soft soap (lb. ss-j).

Sulphur Baths are useful in scabies and also in other conditions in which sulphur is indicated. They are usually made by adding two to four ounces of potass. sulphid. to the bath. Startin recommended sulph. præcip. (ʒij); sodii hyposulph. (ʒj); ac. sulphuric. dil. (ʒss). Sig.: Mix in a pint of water and add to the bath. The deleterious effects of sulphur on most metals should not be lost sight of, this being a great objection to its use in private practice.

Tar Baths.—While tar may be added to the bath, the usual practice is to *tar the patient* before he enters it. The bath should be prolonged, care being of course taken to maintain the temperature of the water.

Sea Bathing.—If there is much hyperæmia, and especially if moisture is present, sea bathing is likely to irritate and aggravate the disease. On the other hand its general tonic effect is sometimes shown beneficially on the skin. It should not be persevered in if any irritation follows it.

Powders.—Simple powder when applied freely to the skin protects it from external irritation, soaks up the evaporating or excreting fluid by capillary attraction, and therefore produces a sensation of coolness; the vessels are contracted and therefore a certain degree of anæmia results. Its beneficial effects on erythematous and œdematous skin are thus fully accounted for. Any further effects are due to the chemical character of the powder and not to its action as such. The more commonly used powders are the oxide and carbonate of zinc, starch, talc, boric acid, carbonate of magnesia, kaolin, terra silicea. Violet powder is composed of starch to which a certain amount of powdered orris root is added.

Carbonate of magnesia has the greatest capacity for water, taking up five and a half times its own weight (Gründler). As a simple dusting powder it is excellent, but its great bulk is against its use in pastes. Kieselguhr* takes up three and a half, and oxide of zinc one and one-fifth times its weight of water, and being less bulky they are more used in pastes.

Powders are simply dredged on to the affected area. If a more prolonged action is desired they may be quilted into muslin bags which are fixed with a bandage, or they may be applied, *e.g.*, on the legs, by wearing two pairs of stockings or drawers, the inner pair being of some open texture while the outer pair is liberally dredged with powder.

Lotions.—These are mainly used either as applications to subdue itching and irritation, or from motives of economy when the wide spread of the eruption in any given case makes the treatment by ointments very expensive.

Sometimes they are very simple, *e.g.*, ac. carbolic (3j); glycerin (3ij); water (3vii). More frequently they contain varying proportions of powders with glycerin or mucilage to aid in suspension. In many respects glycerin is not the most desirable addition. It irritates some skins and attracts water. Mucilage of tragacanth may be used when the reaction of the fluid is acid; if alkaline it is precipitated. When the fluid

* Terra silicea.

evaporates, the powder is left as a protectant to the inflamed skin. Tar, sulphur, acetate of lead, oxide of zinc, calamine, etc., are amongst the commonest ingredients of lotions, while the old-fashioned black wash has still many friends.

In using a lotion it should be well shaken and the amount to be used poured into a saucer. It is then dabbed on with a pledget of wool. The thicker lotions are applied with a brush. Any lotion left over should be thrown away and not poured back into the bottle.

Varnishes.—These are fluid or semi-solid preparations which are spread on the skin, and on evaporation leave a thin adherent covering. The solvents used are various. The simplest of all is Pick's *Linimentum exsiccans*, which is best composed of tragacanth 5, glycerin 5, and water 100 parts. The water and glycerin must be gradually added to the tragacanth in a mortar. They form a translucent jelly which leaves on the skin to which it is applied a thin, almost invisible film, and produces a pleasant cooling sensation on inflamed areas. To it various drugs may be added, provided they have not an alkaline reaction. Mixed with 1 per cent. of oil of cade it is often most useful in the erythematous eczemas of the face.

Gelanthum is one of Unna's preparations, and is composed of tragacanth, gelatin and glycerin. As the preparation is somewhat complicated, I quote from the "British Journal of Dermatology," Feb. 1897, a formula by Mr. Skinner, M.P.S.:—

Ry Tragacanth	5iiss
Gelatin	5ij
Glycerin	5vj
Thymol	gr. 4.
Aq. Destill. q.s	

Place the tragacanth and the gelatin, each in a covered jar with 10 ounces of water, in a steam bath for twenty-four hours. Then press through muslin, mix, add the glycerin, place in the bath again for an hour, and make up to 12 ounces with water in which the thymol has been dissolved. The object of these complicated proceedings is to deprive the gelatin of the greater part of its power of gelatinising.

Liddell, of Harrogate, tells me that he gets a smoother preparation by using 110 grs. of tragacanth, and adding a little gum Arabic.

Any powders which are added must be rubbed up with water to a thick cream. Fats may be added up to 10 per

cent., glycerin up to 20 per cent. Almost any drug may be added provided its action be not alkaline.

Both these preparations have great merits, not only in themselves, but from the standpoint of economy, often a most necessary consideration in dermatology.

Many substances—tar, ichthyol, guaiacol, benzoin, etc., may be applied dissolved in spirit, which, when it evaporates, leaves on the skin a thin coating of the medicament.

Collodion.—Both the plain and the flexile may be applied simply for their contracting power, or they may be used as vehicles for various drugs (*e.g.*, salicylic acid). Unna has drawn attention to the fact that, unlike the gutta-percha varnishes, collodion permits the natural evaporation to go on unchecked, and thus does not “heat” the part, as is exemplified in its beneficial action on Lupus erythematosus.

Filmogen is the name given by its introducer, Schiff, of Vienna, to a collodion made with acetone and gun-cotton, with the addition of a little oil. Acetone collodion seems to have advantages in some directions over the ether preparation.

Traumaticin.—This is a solution of gutta-percha in chloroform (3j–3j), introduced by Auspitz. It is perhaps most used as a cleanly vehicle for the application of chrysarobin in psoriasis.

Celloidin is very useful in the minor surgery of dermatology, but has not apparently been made use of as a vehicle for drugs. The solution in equal parts of ether and alcohol is more manageable than the pure ethereal solution.

Glyco-gelatin.—Glycerin jellies or limes.—The word “lime” (bird-lime) has almost dropped from the English language, and the term “glyco-gelatin,” used by Duhring, seems the best substitute for the German *Leim*.

The use of gelatin was first introduced by Pick, but Unna’s modification is now almost exclusively used. It is a most valuable application, and as its success depends on its careful preparation, I give it in detail :—

R̄	Zinci Oxidi	30.0		R̄	Zinci Oxidi	5iij
	Gelatini	30.0			Gelatini	5ij
	Glycerini	50.0			Glycerini	fl. 5vj
	Aquæ	90.0			Aquæ	fl. 3j
	(UNNA.)					

The second formula is that made for me by Messrs. Baildon and Son. The gelatin is laid in a dish and the water poured

over it. It is frequently turned until every part has taken up water and become perfectly supple. It is then melted in a water bath and the glycerin, previously mixed with any desired medicament, is poured in, the contents being stirred the while. When required for use it is melted, and when sufficiently cool painted on the affected surface. It rapidly sets, and when nearly dry may be dabbed with a pledget of absorbent wool, some of the fibres of which adhere and render the film more durable. Zinc oxide, ichthyol, and sulphur are the usual drugs incorporated with it. Most others, *e.g.*, tar, are best painted on the part and covered with the gelatin. There is probably no preparation to equal this for use in the dermatitis which accompanies varicose veins of the leg. The gelatin permits natural evaporation to go on freely, and consequently does not "heat" the part; it exercises a most useful compression, allays itching, and keeps off injurious external influences. In winter the proportion of gelatin may be diminished, and in very warm weather increased. It is also an excellent means of fixing a dressing on almost any part of the surface.

In the "*Monatshefte f. prak. Dermat.*," of Jan. 15, 1899, Dr. Pelagatti, of the Dermatological Clinique, in Parma, describes a further modification of the glyco-gelatins which has proved most valuable in Prof. Mibelli's hands. It consists in the addition to the gelatin of lanolin, 48 parts of lanolin being added to 120 of zinc gelatin. It is claimed for it that any drug may be incorporated with it, and that the activity of such drugs is not interfered with as in ordinary zinc jelly, but even intensified, and that it has the great merit of cheapness. He calls the preparation "*Salben Leim.*"

Ointments.—Far too much local treatment consists in the mere perfunctory application of zinc ointment. Recent investigations have disclosed an unsuspected width of distribution of fat in the healthy skin which is absent in certain diseases, proving once more that tradition usually rests on some basis of fact, and that in applying ointment to many diseased skins, we only supply to them what they lack. There are, however, many diseases where the application of grease is of doubtful value, and some where it is distinctly injurious.

Ointments vary in their effect according to their composition, irrespective of any drug which may be mixed with them, and may be divided into three groups: (1,) Cold

creams or refrigerating ointments ; (2,) Pastes—stiff ointments ; (3,) Ointments proper.

The simple application of fat to the skin is by no means without effect. The fat is greedily taken up by the horny cells, causing them to swell up, while it dams back the natural evaporation, and causes fluid to accumulate even as far back as the papillary body, and on sensitive skins often produces a most undesirable hyperæmia and œdema.

Unna gives four indications for the use of fats : (1,) where the cutaneous fat is deficient (ichthyosis, dry eczema, etc.) ; (2,) where the epidermis is deficient in protective power (trade dermatitis, *e.g.*, in washerwomen and masons, weeping eczema) ; (3,) as vehicles for various medicaments ; (4,) as directly healing agents.

The fats used are very numerous, and only the more commonly used will be considered.

Lard and tallow are the oldest established. They are always mixed with a certain proportion of benzoin to prevent rancidity. Vaseline should always be prescribed as such. Proprietary preparation though it be, it is much superior to any of its substitutes. The same does not hold of lanolin ; adeps lanæ hydros. is at least its equal. Anhydrous lanolin irritates many skins by abstracting water, and should only be prescribed when this is desired. Lanolin alone forms rather a tough basis, and when used as an ointment should be mixed with an equal quantity of vaseline, or almond or olive oil (3ij–5j). Cocoa butter, which melts readily at the temperature of the skin, is a favourite basis for pomades, and wax and cetaceum are used mainly in the preparation of cold creams.

The mere enumeration of the most commonly used fats does not, however, take us far ; more depends on the method of the application and the combinations in which they are applied.

(1,) *Cold Creams.* Evaporating or refrigerant ointments.—These act, according to Unna, in virtue of the water which they contain. To put the matter briefly, they take up fluid on one side and give it off freely on the other. From this constant evaporation arises the cooling sensation with which they are associated. In order to obtain the full benefit of this they must be smeared on in a thick layer, not rubbed in like ointments. The ung. aquæ rosæ of the British Pharmacopœia is a cold cream ; a favourite formula is ceræ, cetacei āā ʒss, aq. rosæ, ol. amygdalæ āā ʒss. Sack has drawn

attention to the great capacity of adeps lanæ for water, and excellent creams may be made as follows: Adipis lanæ anhydric. $\bar{3}j$, vaselini vel adipis benz. $\bar{3}ij$, et aq. calcis, aq. rosæ vel liq. plumbi subacet. $\bar{3}iij$.

(2,) *Pastes*.—These are combinations of fat and powder, the latter being in far greater amount than in any ointment, sometimes as much as 50 per cent. Hence they combine the effects of an ointment and a powder. They have not the same penetrating effect as ointments, but in virtue of the fat in them they do penetrate, and take with them the incorporated drugs, while the powder they contain enables them to soak up the excretions instead of damming them back as mere ointments tend to do. The most familiar of all is Lassar's paste: zinci oxid., pulv. amyl., lanolin., vaselin., āā $\bar{3}ij$. Other commonly-used powders are kaolin, magnes. carb., and chalk; while Unna strongly recommends, on account of its great absorbent powers, the powder known in Germany as "kieselguhr," a diatomaceous sand which is prescribed as "terra silicea." This possesses such eminent capillary attractive power that 10 per cent. added to an ointment suffices to make a paste.

Pastes are rubbed on the skin so as to form a thin adherent layer—a dry, protective covering for the skin. They may be covered with powder, waxed paper, or with cotton wool and a bandage. Unna's zinc paste:—

R̄ Terræ Siliceæ	grs. xx
Zinci Oxidi	$\bar{3}ij$
Adipis Benz. ad	$\bar{3}j$

His zinc sulphur paste is most valuable:—

R̄ Terræ Siliceæ	$\bar{3}ss$
Sulph. Præcip.	$\bar{3}ij$
Zinci Oxidi	$\bar{3}jss$
Adipis Benz.	$\bar{3}j$

I agree with Leistikow that the presence of hair on the part is no contra-indication to the use of paste. If it accumulates it can easily be removed by oil.

Any drug may be incorporated with the pastes, the amount of powder being diminished if the added constituent is bulky and dry.

(3,) *Ointments*.—In using pure ointments, *i.e.*, small proportions of active drugs mixed with one or other of the fats, their method of action should be borne in mind and they should only be prescribed when such action is desired.

Pure grease applied to the surface causes the horny cells to swell up and arrests evaporation. Combined with any drug, it takes that drug along with it when penetrating, as it does, into the horny cells; hence ointments are *the* vehicles to select when we wish our drugs to penetrate, to exert what the Germans call "Tiefen wirkung." Having conveyed the drug in, their next duty is to give it up readily, and in this all bases are not alike. Vaseline is said to owe much of its virtue to the readiness with which it parts with incorporated drugs. According to Unna, the penetrating power of fat is increased by the addition of water (cold cream), or of soap. The various ointments owe their specific action to the drugs they contain.

Ointments may be rubbed in, spread on strips of cloth and bound on, or if great activity of action be desired, the part may be covered over, after their application, with some impervious material.

Salve muslins are ointments composed of benzoated mutton tallow and a little wax, variously medicated. They are spread either on one or both sides of muslin, and possess advantages on account of their cleanliness and the simplicity of their application, all that is required being to cut a piece of the required size and apply it to the part. Although dearer, they are undoubtedly more efficacious than ointments of similar composition spread upon cloth.

The plaster muslins are more penetrating in their action, owing to the impermeable basis of gutta-percha on which the medicament is spread. Like the salve muslins they can be applied to any part. They adhere well, and they far surpass in activity the same drugs applied in any other fashion. They may be fixed on to any part of the body by coatings of zinc glyco-gelatin.

A very handy and most economical method of applying drugs to the skin is the *salve stick* or *pencil*. This is composed of some firm basis in which the drug is incorporated, and is applied by simply rubbing the affected part, the heat of the skin melting some of the stick. Unna's basis is lanolin 2 parts, and wax 1 part. If this is found too stiff, another useful formula is cocoa butter 2, wax 1, lanolin $\frac{1}{2}$. This is a very handy method of applying any drug to circumscribed patches of eczema, *e.g.*, on the hands, while the chrysarobin stick is a useful means of applying that drug in ringworm and alopecia areata.

Soaps.—When soap is mixed with water, it breaks up and sets free a certain amount of alkali which combines with any greasy matter on the skin, saponifies and removes it. If the soap is alkaline, this action is still more energetic, the alkali attacking the horny cells, softening them, and when concentrated, dissolving them.

The most active soap is *sapo mollis*, made from potash and olive oil. This contains a considerable amount of free alkali, and is chiefly useful in removing thickenings of the epidermis. It is most commonly prescribed in the form of Hebra's spiritus saponatus kalinus, consisting of 2 parts of soap to 1 part of spirit of wine. Perfumes may be added as desired. This is very active, and the indications for its use will be referred to later. When hard soaps are required, soda or a mixture of soda and potash is used. Unna's basis soap is made from 2 parts of soda lye and 1 part of potash lye. Over-fatty soaps are made by the addition to the neutral soaps of an excess of fat, *e.g.*, olive oil 4 per cent. This fat is unsaponified, hence the term over-fatty. For ordinary use neutral soaps are best. Alkaline ones are too thorough in their action, and over-fatty ones require warm water if the cleansing is to be at all satisfactory.

A great deal, perhaps too much, is made of the alkali in soap to the neglect of the other constituents. Probably a good many of the soaps which cause irritation owe that irritation, as much to unsuitable rancid fats used in their preparation, as to the alkali which they necessarily contain. Advertisements that a soap contains no free alkali, or even that it has no alkali at all, are no guarantee that it may not irritate.

Theoretically, soaps should be more useful as vehicles for drugs than they are. Their power of softening the epidermic cells undoubtedly opens those cells more to treatment, and medicated soaps are largely used. They do not, however, in practice prove so satisfactory as they do in theory. They do not seem to carry the drug with them so well as ointments do, and the dosage is uncertain both in amount and concentration. Exceedingly useful in one case, they may prove just as disappointing in their effects in another; and they have their chief sphere in cases where the action of soap as soap is desired, and not as a vehicle for drugs. At the same time they are so easily used, so little trouble is entailed on the patient, that they are often found advantageous.

Of the medicated soaps the best known are Eichhoff's, which are made alkaline, neutral, or over-fatty, either in cake or powder. His formulæ are made up in this country by Midgley, Allen & Hanburys, and other soap manufacturers. The powdered soaps are especially useful for application to the back, the powder being dusted on to a wet towel.

The softening power of soap may be taken advantage of by adding it to ointments. Soft soap has long been used as an addition to ointments in the treatment of scabies, and Unna has further developed the idea by the introduction of what he calls *salve soaps*. These are composed by the addition to a soft soap made from lard and potash, of 5 per cent. of lard, and are strongly recommended by him as a medium for mercurial inunction.

Soaps may be applied in various ways: (1,) simple washing; (2,) rubbing in the lather and allowing it to dry on; (3,) rubbing in thoroughly until dry; (4,) covering the lather with some impervious material.

Oils.—Oils may be used to soften the thicker ointment bases. Olive oil is used to soften and remove crusts, especially on the head. Linseed oil, along with an equal part of lime water, forms the well-known Carron oil. Paraffin oil is useful to destroy pediculi; and cod-liver oil as an external application in lichen scrofulosorum. Almond oil is used in cold creams, and serves to diminish the toughness of lanolin, while castor oil is a component of hair washes, being the only oil which is soluble in alcohol.

SECTION II.

ANOMALIES OF SENSATION.

PRURITUS.

(*Prurire—to itch.*)

IN the pathological classification of disease laid down by Unna, which I propose to follow as closely as possible, there is no place for the purely sensory disturbances. They form, however, a most important part of practical work, and although their successful treatment depends perhaps more on a thorough knowledge of medicine than on the special branch of dermatology, they must be referred to here.

Itching is common to many skin diseases. The term Pruritus is applied to those cases in which there are no visible signs of disease. Pruritus must be carefully distinguished from Prurigo, a distinct disease. The former is not a disease, but a *symptom*; it may be of one or other of many diseases.

When a patient presents himself complaining of itching, the first matter to be determined is whether any parasites are present. In making this investigation, the appearance and social position of the patient count for nothing. There is nothing in a title which guards one from the attacks of even such a vulgar insect as the *pediculus vestimentorum*.

Many cases of itching will be found to be due to the presence of the *pediculus capitis*. The irritation in the scalp seems to arouse a general tendency to itching, and scratching produces tiny lesions of the skin, almost invisible yet excessively irritable. Scabies, too, often exists unsuspected, for, in the better classes, the hands being frequently washed are very rarely much affected, while the daily bath prevents the typical appearances of the disease from being developed on the body.

The absence of parasitic causes having been determined, we turn to the investigation of the internal organs. The first subject for examination is the urine. Diabetes is one of

the most fruitful sources of pruritus. Not only do we have those cases of local irritation, specially frequent in females, where the effects of the sugar produce an itching and a dermatitis, but the presence of diabetes often provokes a tendency to itching all over the body, most marked, of course, in those typical cases where the skin is dry and harsh. Jaundice, from whatever cause it may arise, is frequently accompanied by itching, but other hepatic troubles, such as gall-stones, sometimes reflexly arouse it. Occasionally, too, itching is a troublesome, and sometimes the first symptom of a commencing cirrhosis; the liver and its functions should always be carefully examined in unexplained cases of pruritus. If a likely cause is not found here—indeed, in any case—every organ should be investigated, and any trifling derangement corrected.

Pruritus hiemalis (wintry) is a variety of the disease apparently dependent on cold. It is most marked in the winter months, often disappears on the stoppage of the cold bath, and is best combated with remedies such as acetic acid, camphor, etc., which stimulate the circulation of the skin. Warm water and friction are useful aids.

The terms pruritus ani and vulvæ are often too readily applied. While symptomatic itching may be local and limited to these regions, it will at least very often be found, on thorough examination, that the irritation is caused by *some evident disease* (hæmorrhoids, oxyuris vermicularis, fissures, vaginal catarrh), the cure of which is soon followed by the disappearance of the itching.

There is another form of pruritus which is not so generally recognised, but cases have occurred in my own experience, and Crocker refers to it in his text-book. These are the cases of *mental pruritus*, where the delusion takes the form of a belief that the skin is swarming with insects, but the intellect is not so seriously affected as to lead to the patient's removal to an asylum. This form should not be too readily diagnosed. It is no doubt comforting, when one is unable to discover the cause of any disease, to conclude that it exists only in the patient's brain, but it should only be after the most careful search that this conclusion is arrived at.

REMEDIES.—During the time all these investigations are going on, the patient, however, is naturally anxious to have some relief from his symptoms, and the number of remedies

which have a repute for relieving itching is very great. One of the best is menthol, which is most easily applied in the form of soap. If the patient is lathered all over before going to bed, and sleeps in a flannel nightdress, the result is often a quiet night. Carbolic acid $\bar{3}j$, glycerin $\bar{3}ss$, water to $\bar{3}vij$ forms a lotion which often gives considerable relief. Tar is another useful remedy ; liq. carbonis deterg., $\bar{3}j$ - $\bar{3}ij$ or more, in a pint of water, sponged on, is often soothing. A solution of tar in spirit, a drachm or more to the ounce, may be applied. As the spirit evaporates, a thin coating of varnish is left on the skin which has a constricting and protecting action. The narcotic alkalies are often useful ; they should be dissolved in alcohol or ether, or a mixture of both. Unna recommends a solution of *cocaine* in ether, and Taenzer uses a *nicotine* soap with good results. Other remedial agents are *balsam of Peru*, the *compound tincture of benzoin*, *guaiacol* and *tumenol*.

It is also possible to moderate the excessive itching by the internal administration of various drugs. Hypnotics should only be advised when the symptoms are very severe, and with a full sense of the responsibility which is involved. Morphia often aggravates itching and should almost never be prescribed. The bromides, chloral and cannabis indica, either separately or combined as in bromidia, are preferable where some drug is essential, while antipyrine is occasionally useful. Brocq gives carbolic acid, gr.j, in pill thrice daily, and salicylate of soda, gelsemium, nux vomica, ichthyol, digitalis and ergot have all been tried, sometimes with benefit.

Cases which resist the majority of the recommended remedies are so numerous that it is necessary to give an extended list, but it must never be lost sight of that all are merely directed against the symptoms, and that the real treatment of the disease consists in finding out its cause and removing it.

ANÆSTHESIA.

Anæsthesia of the skin is always a symptom of some other malady. In leprosy the anæsthesia of the patches distinguishes them at once from any other disease of the skin which they may chance to resemble, though any other form of neuritis may be associated with anæsthesia of the skin. Sometimes anæsthesia is secondary to a hyperæsthesia, it is not infrequently hysterical, and it is sometimes a symptom of chronic poisoning

DERMATALGIA.

The pain associated with zoster is neuralgic, and, consequently deeper seated than dermatalgia proper. Pain limited to the skin may be a symptom of some systemic disorder. The most typical cases occur on the hairy parts of the body when every movement of the hair sometimes causes excruciating pain. This is probably associated with a hyperæmia of the neck of the follicles, and, according to Unna, is best treated by the internal administration of ichthyol. Anæmia, malaria, rheumatism and gout have all been noted in connexion with dermatalgia, and should be taken into consideration in the investigation of any given case.

SECTION III.

ANOMALIES OF SECRETION.

THE secreting glands of the skin are the coil and the sebaceous glands. Seborrhœa which, strictly speaking, indicates an excessive activity of the sebaceous glands, is really a mild inflammatory process, and will be considered under that heading. The only pure anomalies of secretion which are important are those of the sweat glands. These may either be too active, or inactive, or their secretion may be modified. The most important of these is excessive secretion.

HYPERIDROSIS.

(ὑπὲρ-ιδρῶς—the sweat.)

Excessive sweating may be either local or general. General sweating is the less important dermatologically, as it is usually dependent on some systemic disease, such as phthisis or fever. Of the localised form there are certain varieties; one of these is distinctly neuritic in origin, the skin over the region of distribution of a particular nerve, usually on the face, perspiring freely. Then there may be excessive activity of the larger glands in the scalp, and in those regions where the parts are covered by the clothes and heated, the axillæ and groins. The palms and soles also are very commonly affected. Especially in these two latter situations, the irritation produced by the decomposing sweat may set up a moist dermatitis, probably due to the presence of organisms, the growth of which possibly further stimulates the activity of the glands. Hyperidrosis is favoured by general weakness, anæmia and alcoholism being the commonest predisposing causes.

The condition known as *bromidrosis* (βρῶμος—a stink) is simply a complication of this last, the odour-producing organisms growing in the exuded sweat.

TREATMENT.—The treatment of the condition depends upon the stage at which the disease is found. If decomposition has given rise to dermatitis, that must be subdued by mild

treatment before the disease itself can be attacked. Ordinary soothing ointments and emollient baths should be used. Hebra's ointment, emplast. plumbi, vaselini, āā pts. æq., applied spread on strips of cloth is of great value. For the *hyperidrosis* itself, the first indication is to correct any defect of the general health, such as anæmia. Alcohol, if used too freely, should be interdicted, and the possibility of hysteria ought also to be considered. Of drugs which have an influence on the secretion there are belladonna, agaricin, ergot, extract of hydrast. canadensis, and sulphur (ʒj thrice daily), which is strongly recommended by Crocker. Unna points out that an increase of tone in the smooth muscles lies at the bottom of the process, and that this is best combated by periodic stimulation. Friction, the application of mustard, tartaric acid, camphor, iodine, or electricity, etc., are all useful.

For hyperidrosis of the axillary and femoral regions absolute cleanliness and astringent applications are usually prescribed. A decoction of *oak bark*, solutions of *tannin*, lotions of *salicylic acid*, and drying powders are recommended by different observers. Leistikow strongly recommends *formalin*,

R̄	Formalini	ʒss-ʒj
	Adip. Lanæ.	ʒij
	Vaselini	ʒss

which should in any case, he says, be used in the form of soap for a considerable time after recovery.

He also advises the use of zinc sulphur paste to prevent recurrence. In the not uncommon cases where sweating in the axillary regions is unpleasant, it is worth knowing that the application of very hot water on a sponge will usually arrest the excessive secretion for a few hours.

When the disease affects the palms and soles, the latter of which is the condition which most frequently comes under notice, Leistikow lays great stress on the importance of recognising whether the case is one of cold or hot sweating. If cold, he advises the use of hot baths with the addition of vinegar, spirits of camphor, etc. The parts are then carefully dried and washed with formalin soap, the lather of which is allowed to dry on. The principle of the treatment is to induce a hyperæmia which shall correct the anæmic condition, for which purpose he uses turpentine and camphor in zinc ointment.

R̄	Terebinth.	
	Ichthyol	āā ʒj
	Camphoræ	ʒss
	Ung. Zinci Oxid. ad	ʒj

In the case of hot sweating the hot baths are omitted and their place taken by washings with decoction of tan, or weak borax baths, to lessen the hyperæmia. *Sulphur, resorcin, ichthyol* and *salicylic acid* are the most suitable applications in these cases. He points out the risk of dermatitis from the use of strong ointments of formalin. Another plan of treating hyperidrosis of the feet is to envelop them in strips of salicylic soap plaster, 3-5 per cent. The immediate effect of this is exceedingly good. After a week or ten days the patient seems to be perfectly well, but, unfortunately, there is a great tendency to recurrence. This may, however, be prevented by using dusting powders containing salicylic acid (2 per cent.). Other methods of treatment are the application of *Condy's fluid, nitrate of silver*, or the German military method of painting with a 5 per cent. solution of *chromic acid*. For very obstinate cases Neebe recommends a most heroic remedy. He pours enough *crude hydrochloric acid* into a large, flat dish to just cover the soles of the feet; the patient stands in this for five to ten minutes, and then washes his feet in warm soap and water. A complete cure is said to require bi-weekly applications for four to eight weeks, and it says much for the heroism of those who undertake it. Another application is the *liquor ferri perchlor.*, followed by some soothing dressing. A milder plan of treatment often followed in this country is to order the patient to wash the feet at least twice daily, to change the socks every day, and, before putting them on, to fill them with some antiseptic powder, *boric acid*, or 3 per cent. *salicylic acid* in talc or starch. Loosely-fitting shoes and woollen socks should invariably be worn.

CHROMIDROSIS.

(χρῶμα—colour.)

Most cases of chromidrosis are met with in hysterical young women, but not uncommonly we meet with red staining of the clothing in the axillary region, which is evidently due to the growth of organisms. These grow on the hair sheath, and the sweat is stained after excretion. My experience agrees with that of other observers, who have met with this most commonly in medical men and students. Probably they are more observant than others. Treatment is not very satisfactory. The parts must be kept scrupulously clean and sponged twice daily with perchloride spirit (1-1000).

The other forms where the sweat is green and blue are mere curiosities.

ANIDROSIS.

Total suppression of the sweat probably rarely, if ever, occurs, and the term is generally applied to those cases where the secretion is diminished, as in a number of systemic diseases at certain stages. The secretion is very notably diminished in ichthyosis and in many of the dry keratoid eczemas.

Usually the cure of the condition to which the arrest is due is followed by the restoration of the secretion. In ichthyosis complete cure is so unlikely that much cannot be hoped for in that condition, and the skin must be permanently artificially lubricated.

Stimulation of the skin by hot baths and massage is useful. Pilocarpine may be administered, but most useful are those general methods which increase the subcutaneous fat situated in relation to the sweat glands. Cod-liver oil or glycerin in large doses are favourite methods. According to Unna, arsenic and ichthyol, separately or in combination, are usually more efficacious.

SECTION IV.

ANOMALIES OF CIRCULATION.

ANGIO-NEUROSES.

URTICARIA.

(*Urtica*—a *Nettle*.)

THE name of this disease almost renders a description of it unnecessary. The lesions exactly resemble those produced by the sting of the nettle, and the sensations of burning and itching are precisely similar. The wheals are elevated, firm to the touch, white in the centre, and have a reddish border. While this description is true of the vast majority, there are occasionally cases which have been called **Red Urticaria**, where the white centre of the wheal does not appear. The nature of the process may best be explained as follows: If in a healthy person a streak is made on the skin with some blunt instrument, and carefully watched, the first phenomenon is a line of redness, which is almost immediately followed by a pale streak which remains for several minutes. The first effect of the irritation is to cause a momentary dilatation of the vessels, which is followed by contraction. In some persons where the vessel nerve connexion is not perfect, the redness persists for a considerable time, and then gradually fades away. In a certain number of individuals the redness which first appears is carried on a stage further; in addition to dilatation of the vessels, serum is poured out from them. The serum, getting into the interstices of the tissue, compresses the vessels from without, and gradually empties them, and thus we have produced a white wheal, the border remaining red. In the case of red urticaria the tissues are presumably looser, and the vessels are not so readily compressed from without. This is probably the best way to understand the nature of this troublesome disease.

In those whose vessels do not react normally and who,

therefore, have a tendency to it, urticaria is produced by much slighter irritants than in those in whom they are healthy. Although the sting of the nettle may serve as a typical example of the irritation which produces this disease, it is not dependent on external irritation only. We may put in three classes the irritants which cause an attack of urticaria : First, *external* ; second, *internal* ; third, *reflex*.

External Irritants.—There are numerous substances from the *animal* and *vegetable* kingdoms which will produce a wheal, more or less severe, in the majority of persons. There are always exceptions. There are a few people on whom the sting of a nettle does not produce any effect, and there are a good many more who are able to withstand the attacks of the domestic flea with impunity.

But there is another class of external irritants which forms, very frequently, the determining cause of an attack of urticaria in those predisposed to it. This is the class of *chemical* irritants, such as those substances used in finishing, dyeing, bleaching, or even in the washing of clothes. Many people predisposed to the malady are unable to wear any other material next their skin than silk, and in one case under my care a lady frequently had severe attacks of urticaria when clean sheets were put upon the bed (the sheets were washed in a “steam” laundry).

Internal Irritants.—The class of irritants comprised under this heading may be best considered altogether as poisons brought by the blood stream to the skin. Of these we have first a number of drugs. The commonest drug rashes are urticarial or erythematous in type, indeed the same drug will produce in one person urticaria and in another erythema. Then we have certain substances taken as food. Of these the most common are, all varieties of shell fish, prominent among which are oysters, lobsters, crabs and whelks (I cannot endorse Dr. Pye Smith’s statement that oysters are harmless), pork, cheese, mushrooms, preserved fruits, pickles, sour wine, strawberries, and certain other fruits—indeed, there are very few substances which to some individuals are not, in the urticarial sense, poisonous. Some writers regard these irritations as reflex, but it is probably more correct to regard them as poisons. No one looks upon the eruption produced by, say, copaiba as a *reflex* irritation.

Reflex Irritants.—The most important of these is the presence in the intestine of worms, which should always at once

occur to the physician in any case of urticaria in a child. The state of the gastric and intestinal functions must next be enquired into and any disorder rectified.

Another fruitful source of reflex irritation is uterine and ovarian disease. Often the cure of an apparently trivial affection in these regions will be followed by the disappearance of the urticaria. It is a well-known fact that urticaria has frequently followed the tapping of a hydatid cyst of the liver, but other hepatic disorders may be responsible for a reflex urticaria. Indeed, certain anomalous outbreaks of urticaria are, in my experience, not infrequently the earliest symptoms of pretty serious liver disease, such as gall-stone or even cirrhosis. Gout may sometimes be the cause, at least treatment with that in view is sometimes successful.

Varieties.—If the histopathology of the affection, namely, an accumulation of serum in the interstices of the skin, be clearly understood, it is easily seen how varieties may occur. Thus the fluid may not be confined to the corium, but may escape and raise the epidermis in a vesicle or bulla, a condition which has been distinguished by the name of *Urticaria bullosa*; or the vessels may give way and hæmorrhage take place (*Urticaria hæmorrhagica*).

The most important variety of the disease is that known as *Lichen urticatus*, or *Urticaria papulosa*. One is often consulted regarding a child, who is said to suffer from itching. On examining the child, there is observed a number of papules, most of them surmounted by a tiny hæmorrhagic crust, and all or nearly all of them distributed within reach of the child's fingers. The appearances somewhat recall those of scabies, but the favourite seats selected by that disease in children, the hands, feet and wrists, are not specially affected. Very often, as soon as the clothes are taken off, the child commences to scratch itself, and demonstrates the nature of its disease. If it does not do this, the skin may be irritated by drawing the finger nail across it, when the sensitive skin responds with the development of an urticarial wheal. Usually the mother, if observant, has noted the appearance of these wheals on the child, but as they are so evanescent their importance is apt to be obscured by the more lasting crusted papules.

Another variety of the disease is known as *Giant Urticaria*, or acute circumscribed œdema (Quincke's œdema). This is more common in adults, and is sometimes associated with

alcoholic excess. The process is the same, only the vessels affected are the larger ones of the hypoderm, and, consequently, the swelling is much larger and deeper. There is not in this form the same intense burning and itching which is so frequent in the commoner variety of the disease, but in its rapid appearance and disappearance it follows very much the same course. *Urticaria pigmentosa* is, in my opinion, not a true urticaria, and will be described subsequent to xanthoma, to which it seems to have more affinity.

DIAGNOSIS.—The diagnosis of a wheal is a matter of no difficulty. The wheal is merely a symptom which arises with greater or less facility according as the skin is more or less intolerant of various irritants. Thus the importance of the diagnosis is not so much in the actual recognition of the condition as in the recognition of its cause. When the wheal is found and recognised the diagnosis is only begun.

PROGNOSIS.—The prognosis, too, depends on the cause of the malady. In the acute cases it is usually good, but sometimes an irritant which produces an acute attack seems to arouse in the skin a latent tendency to the disease, which lasts long after all traces of the irritant must have passed away. Thus, I was once consulted by a patient who, after an oyster supper at Christmas time, had a severe attack of acute urticaria. When I saw him, in June, although he had eschewed oysters ever since, the urticaria was still very troublesome. The prognosis really depends on the ability of the physician to find out the cause of the disease and to remove it.

TREATMENT.—In cases of acute urticaria, due evidently to some error of diet, an emetic or a sharp purge should be ordered. If parasites, either external or internal, are present, their removal is usually followed by the disappearance of the urticaria. Subsequently, attention should be directed to the condition of the internal organs, and if any disturbance of these is found it should be corrected. This applies to apparently trivial disorders which are sometimes associated with urticaria. The food must be next attended to. There are wonderfully few articles of diet which may not produce the disease in a person predisposed to it. The articles which are well known to produce it frequently have already been referred to, but if a case continues obstinate, the various articles of food and drink should be intermitted in succession until eventually the guilty one is found.

External irritation must be guarded against. Allusion has

already been made to chemicals used in washing the under-clothes, but the under-clothes themselves should, in those subject to the disease, be very soft and unirritating. It may often be necessary to wear linen under the flannel garments, or to have recourse to those made of silk.

A cold bath sometimes seems to be responsible for the keeping up of the disease, and its modification or abolition may be desirable. Further, irritant substances connected with the patient's work may have a bad effect, and, lastly, the possibility that the patient may be taking some drug which is responsible should be borne in mind. In such cases the irritant must of course be avoided.

Of the drugs which have an influence on the disease, ichthyol has, in my experience, proved the most reliable. To adults it may be given in capsules (5 minims three times a day). Children take it quite easily, mixed with an equal part of glycerin. Salicylate of soda, salol, and quinine are all worth a trial. Chloride of calcium, strongly recommended by Wright, of Netley, has, I regret to say, not proved of much value in my hands. Unna gives ichthyol during the day and an atropine pill at bedtime. Antipyrine and phenacetin are well worth a trial.

HÆMORRHAGES.

PURPURA.

(*Purpureus*—purple.)

Purpura is not, strictly speaking, a disease. Hæmorrhage may occur in a variety of conditions. It is often the extension of other processes, such as *urticaria* (hæmorrhagica or purpurica); *erythema purpuricum* and *hæmorrhagic pemphigus* are both possibilities, and would in a way come under Purpura if that name were to be applied to all hæmorrhages of the skin. But even when limiting its use to those cases in which hæmorrhage is the sole lesion, we are still far from having a characteristic and definite disease before us. As Crocker expresses it, it is a symptom rather than a disease. The purpuric lesion is one which may be produced by a variety of causes.

Purpura simplex may be taken as the type of the disease. Hæmorrhages, apparently spontaneous, suddenly appear on different parts of the body. Their size varies. In ordinary cases they are usually rather larger than a pinhead. Their colour, at first bright red, does not disappear on pressure, and

they are not elevated above the skin. Each spot lasts until the little hæmorrhage is absorbed, the colour gradually fading; but fresh crops constantly appear, prolonging the duration of the disease sometimes for months. The eruption is most common in adults on the lower extremities, especially on the flexor aspects of the thighs and calves. In children, almost any part of the body may be affected, and the spots often appear first on the neck.

Purpura hæmorrhagica, or land scurvy, is simply an exaggeration of the same process. The hæmorrhages are much larger, and vary very much in shape. They are not confined to the skin, they appear also on the mucous membranes, and epistaxis, hæmoptysis, hæmatemesis or hæmaturia may occur.

Purpura rheumatica, or **Peliosis**, is, I believe, better ranked with the erythemata. The symptoms which accompany it, joint pain and malaise, are much more nearly related to that type of disease.

In ordinary Purpura there is often little apparent disturbance of the general health, but in the hæmorrhagic form the patient is very evidently ill. There is great debility, and the hæmorrhage from the mucous membranes may be so serious as to lead to a fatal result.

Stephen Mackenzie classifies Purpura as follows: (1,) *Vascular Purpura*, including all cases where there is some known or supposed primary blood disorder; the specific blood diseases (Leucocythæmia); conditions in which some constituent is present in excess (bile, urinary constituents, etc.); (2,) *Toxic Purpura*, where the hæmorrhages are due to some poison from without, such as phosphorus, mercury, mineral acids, and salicylic acid; (3,) *Mechanical Purpura*, where there is heart disease, varicose veins, etc., and probably senile purpura; (4,) *Nervous Purpura*, in which he includes the forms occurring in tabes, neuralgia, and (in my view incorrectly) purpura urticans. There must also be added to these classes, cases such as those described by Russell and others, where organisms have been found in the hæmorrhages.

It used to be taught that blood escaped from the vessels by diapedesis. This theory has been exploded by the careful work of Sack; and Unna, in his "Histopathology," says that if the examination be careful, one will never fail to detect a rupture in the vessel wall. Our object, then, is to determine what it is that weakens the vessel wall and leads to the rupture, for healthy vessels do not rupture. Various theories

have been put forward, and several definite observations made. Thus it has been found secondary to thrombosis, produced by blood-clot, masses of leucocytes, sarcoma cells, or colonies of germs. The idea that changes in the vessel walls, such as waxy disease, may induce purpura is hardly warranted by our knowledge of that very widespread disease. Probably the element on which we should lay most weight is the *condition of the blood* in the vessels and in the *vasa vasorum*. There must take place some weakening in the fibrous tissue of the vessel wall before it can give way.

DIAGNOSIS.—The diagnosis of Purpura is easy enough. The fact that the lesions are flat, not elevated above the rest of the skin, except where the hæmorrhage is very considerable, separates it from nearly all the other diseases. In true Purpura hæmorrhage is the only lesion; any swelling, any surrounding hyperæmia points to some other disease.

PROGNOSIS.—The prognosis is usually good, but the time required for recovery varies very widely. While some cases rapidly recover, others require months of treatment.

TREATMENT.—The late Dr. Angus Macdonald, when lecturing on pelvic hæmatocele, used to say that he had three prescriptions for that “disease,” one after all not so distantly related to Purpura. Of these, the first was *rest*, the second was *rest*, and the third was *REST*. The advice is equally applicable to Purpura. Rest is by far the most potent remedy, and in severe cases it is absolutely essential. The diet should be light but nourishing, and whenever the cause of the disease can be discovered, suitable measures must be taken for its removal.

When we come to the question of drugs, we find an enormous diversity of opinion. Ergot has a great many supporters. Crocker says that *turpentine* is by far the best remedy; my own experience, necessarily much smaller than his, is that iron deserves all he says of turpentine, while Unna strongly recommends the tinct. of arnica (℥v) thrice daily, though he only claims for it a power of promoting rapid absorption of the existing spots, and not of preventing fresh ones. Other remedies recommended are *quinine*, *nitrate of silver*, *acids*, *acetate of lead*, etc. Among so many, it is difficult to make a selection. From the very diversity of the mode of action of these drugs, it is evident that they cannot be useful in the same class of cases; and of ergot, it seems to me that if we assume a weakened condition of the vessel

walls, it is more likely to produce hæmorrhage than to check it, for with weakened walls and a rise in blood-pressure, no contraction short of obliteration would seem to be of any value. In the severe cases of *Purpura hæmorrhagica* all food must be cold, and ice should be given freely. Graves recommended tr. digitalis (℥xx), and tr. opii (℥v), thrice daily, and to go further back we find Hunt strongly recommending emetics, as useful in all hæmorrhages which do not proceed from the head.

In *P. hæmorrhagica* the diet has frequently been too restricted, sometimes from choice rather than necessity, and a change to the simple diet of an English farm house—plenty of fresh meat, milk and vegetables—is usually followed by rapid improvement.

Another variety of *Purpura*, by no means uncommon, is found on the legs of elderly people. At the first glance the case looks like a chronic eczema. Closer inspection, however, shows that in addition to a certain amount of dermatitis which is often present, there are numerous brownish lesions which do not disappear on pressure, and which, when closely examined, are seen to be really small superficial hæmorrhages. It is rare to find among them fresh spots of a red colour, and it is only on careful examination that the hæmorrhagic nature of the case is recognised. There is little disturbance of health, and a slight itching due to the dermatitis is all the patient complains of. The course of the disease is slow, and little amenable to the routine treatment for purpura.

Acting on a suggestion in Dr. Leistikow's small handbook, I have treated one or two cases which have recently come under my notice with very considerable success, by an ointment containing the *extract of arnica* (3–5 per cent.). Otherwise, the patient's general condition must be looked after just as in the form of Hæmorrhage already described.

PEDICULOSIS CORPORIS.

It may seem strange to meet with the description of this disease under the heading of hæmorrhages, but after all the difference from purpura only is that in the lesion produced by the *Pediculus corporis*, which is clearly a hæmorrhage, we have also a certain amount of irritation, and we are in the fortunate position of being able to put our finger on the cause. In *Purpura* we are forced to describe a number of possible causes (among them organisms), and it seems therefore justifiable

to put that hæmorrhage of which we know the cause in this place. The hæmorrhagic spot in *Pediculosis* differs from that in *Purpura* in two respects. It has in its centre a darker point which represents the puncture of the insect's proboscis, and it is surrounded by a pink halo of inflammation which is absent in that disease. In addition to the hæmorrhagic lesion others are present, though these, too, are usually in the form of hæmorrhagic crusts. The irritation to which the presence of the pediculus gives rise leads to scratching, and the patient's back is usually marked by his nails. These marks are always to be found within reach of the fingers. Thus on the back they reach from the neck a certain length down between the shoulders. They are found about the lower angle of the scapula where the hand of the opposite side can reach, while the centre of the back is usually, except in acrobats, free. The presence of these "scratch" lines is almost enough to enable one to diagnose the disease. In no other disease does the patient scratch so savagely. In the lowest classes the presence of the pediculus is an additional piece of confirmatory evidence. It is found by carefully evertting the neck of the shirt, for the insects are usually found in the region between the shoulders. Failure to discover



Fig. 3.—*Pediculus corporis*, $\times 50$

them is, however, no proof of their absence. It is very common for the patient to pay the hospital the compliment of putting on a clean shirt, and the search is very often in vain. The disease is most common in the elderly, and as in other parasitic diseases, the social position of the patient must never lead the observer astray.

TREATMENT.—In treating this disease the habitation of its cause must be borne in mind. We are dealing with the *Pediculus vestimentorum*, and it is the vestments which require most treatment. All washable articles should be boiled, and the outer garments either destroyed or sterilised, either in a proper apparatus or else by hanging them in front of a fierce fire for several hours, turning them repeatedly.

Further, the bed occupied by the patient must go through the same process of disinfection, otherwise re-infection is certain. Local treatment is of secondary importance. If the pediculus is destroyed the dermatitis produced by its presence will very soon disappear, but diluted sulphur ointment may be applied for the first night or two (Dr. Allan Jamieson recommends that a piece of sulphur in a small bag be worn around the neck), and if there is much dermatitis produced by scratching it must be treated by appropriate soothing remedies.

Dr. Jamieson has very recently directed my attention to the fact, unnoticed, so far as I am aware, by any other observer, that the ova of the pediculus may sometimes be found on the lanugo hairs of the body. This accounts for the otherwise inexplicable recurrence of the disease after thorough disinfection of the clothes and bedding, and indicates the desirability of two modifications of the above remarks: first, in the direction of more thorough treatment of the patient's skin, on the lines already indicated, and second, in the preference of the name *Pediculus corporis* to the more familiar one of *P. vestimentorum*

SECTION V.

INFLAMMATIONS.

UNDER this heading is comprised the vast majority of skin diseases. An ideal division of these is not possible. An anatomical grouping leads to the combination in one class of entirely unrelated diseases. The larger classes into which Unna divides the inflammations are founded on an etiological basis, and though this too necessitates assumption, more especially in the neurotic class, there is no doubt that it is at all events a useful stop-gap until our knowledge advances further.

Traumatic Inflammations.—Under this heading he groups those cases where the skin disease is induced by some external irritant, such as heat, chemical agents, and friction. With the exception of burns, most of these have been described as “eczema,” or at least as “eczematous,” and it is a distinct gain to remove them to a distance from that disease.

Neurotic Inflammations.—These are undoubtedly a more questionable class. The criticism frequent at least some years ago that “neurotic” or “neurosis” simply indicated ignorance, still has in it a spice of truth, and the “nerves” are made the scape-goat of too many diseases.

Infectious Inflammations.—These include the majority of the commoner skin diseases. In grouping them under this heading, again some admissions must be made. Comparatively few of the diseases of the skin have fulfilled Koch’s postulates, and thus definitely proved their dependence on a specific germ. But the course of most of them so closely imitates that of those which we know to be specific, that their provisional enrolment in this class of inflammations is at least justified.

TRAUMATIC INFLAMMATIONS.

These are divided into those due to *mechanical*, *physical*, and *chemical* causes.

Mechanical Causes.—An example of the mechanical is friction, in which, however, it must remain an undecided point whether the mechanical cause alone is sufficient to induce the inflammation.

Physical Causes.—Those which produce inflammation are heat, sun-light, and electricity. Burns and their degrees are fully treated of in works on surgery. Heat, prolonged and severe, produces, as on the legs of stokers and cooks, a deep pigmentation of the skin, often accompanied by some inflammatory symptoms, far short of a surgical burn. Sun-burn is quite distinct from the burn of heat. The severest sun-burns occur in the cold air of the glaciers, and it is evidently to the light, and according to experts, to the ultra-violet rays of the light, that the pathological effects are due.

A very interesting paper on "The Influence of Solar Rays on the Skin," by Dr. R. L. Bowles, appeared in the "Brit. Journ. of Dermatology," 1893, p. 237.

The very powerful light used in electric fusing also causes a condition not clearly distinguishable from sun-burn. The X rays produce a severe dermatitis often ending in considerable sloughing, the ulcer which results being extraordinarily slow in healing.

Chemical Causes.—It is impossible, even were the space at one's disposal practically unlimited, to give a complete list of all the chemical substances which induce irritation of the skin. The effects are not all to be regarded as inflammatory; some of them, for instance, are almost purely urticarial, as the sting and bite of various plants and insects. Then paraffin induces a growth of epithelium, sometimes of epitheliomata, which can hardly be ranked with the inflammations, and many of the caustics produce a simple death of the tissue without any inflammation at all.

Dermatitis venenata (*venenatus—poisoned*).—The forms of inflammation which are produced by chemical irritants are erythematous, vesicular, or pustular. These may be present alone or grouped in various ways. For instance, croton oil produces an *erythemato-pustular* rash, while the rhus toxicodendron produces an *erythemato-vesicular* one.

Aniline dyes are sometimes the cause of an eruption, papular, vesicular, or pustular, the orange dyes having a special reputation for causing irritation.

Arsenic in the form of a dye is often irritating, and if the

cause is not recognised and arsenic is given to cure the "skin disease," bad is made worse.

Certain drugs when applied to the skin may give rise to some irritation, some of them invariably, others exceptionally. Chrysarobin, cantharides, mercury, and mustard are among the more familiar. Their use sometimes sets up erythema, which may go on to the formation of papules, vesicles, or even to a moist dermatitis.

The irritant effects of the poisonous plants are best classed along with those drug eruptions under this heading. The *Poison Ivy* and the *Poison Sumach* are very familiar to American dermatologists. In this country the plant, the handling of which most often causes irritation, is the *Primula obconica*. Many plants are, however, irritating to certain skins, and any eruption in those who have to do with flowers, plants, or even wood (in one case under my care a carpenter was utterly unable to work with teak), should be carefully investigated with *Dermatitis venenata* in view.

Trade Dermatitis or Occupation Eczema.—Inflammation of the skin of the hands due to irritants among which the patient works are very numerous. Washerwoman's Eczema, Baker's Itch, etc., are old names, but printers, rubber-workers, packers and others are often attacked. In most cases some lowering of the systemic tone has preceded the attack; were nothing but the irritant involved every worker would be affected. The form of the eruption varies with the irritant: suspicions of its nature are usually aroused by the limitation to the hands; and the history of the case, rather than the presence of vesicles, crusts, etc., is the guide to a correct diagnosis.

Strictly speaking, all the various trade Dermatitis are varieties of *Dermatitis venenata*, and, like that form of inflammation, they speedily disappear when the cause is removed. It is, however, very often impossible for the patient to give up or even to change his occupation, and therefore some directions for the management of such cases will be of value.

The principle of management is to avoid depriving the skin of the lubricant which protects it from the irritation, and to supply one in its place where deficient. The directions are Unna's, and will be found most useful.

At night the patient must wash his hands first with oil, then with soap and water. They are then dressed with strips

of cloth spread with oil or ointment. In the morning this is removed with *dry* wool, and the parts are rubbed with the salve stick. This preparation is chosen because wax and lanolin are not easily saponified by alkalies (so often the irritant). It may be applied at intervals during the day as necessary. After work the hands should be cleansed with oily wool, thorough washing being limited to once daily. Housewives should do all their dirty work at once, then thoroughly wash the hands and keep the dressings closely applied for the rest of the twenty-four hours. Hebra's ointment is a very useful application, and weak tar or resorcin ointments or solutions make the epidermis more resistant.

Dermatitis medicamentosa.—This is probably the most convenient place to consider the "drug eruptions." The number of drugs which have been reported once or oftener as the cause of an eruption on the skin is very great, so great that it would be impossible in the limited space of a work such as the present to do more than name each. Many of them, however, are merely curiosities of idiosyncrasy, and though interesting are of little importance.

The production of a rash by a drug must in all cases be regarded as an idiosyncrasy on the part of the patient, otherwise such rashes would be invariable. Various other factors, however, come into consideration. Sometimes, for instance, the rash is due to some impurity in the drug, sometimes to the condition of the patient's stomach, and perhaps oftener to the condition of his kidneys. Iodide rashes, for instance, are more easily produced when there is albuminuria.

Speaking generally, the drug rash, as one would expect, resembles that of those diseases which we attribute to the circulation of some irritant in the blood, and thus the majority of drug eruptions are *erythematous* or *urticarial* in their nature. But just as in the diseases of these types, the exudation of fluid is sometimes very great, and vesicles and bullæ may be produced (as in herpes iris, erythema bullosum).

Of the more commonly used drugs which produce an erythematous rash may be mentioned *antipyrine*, arsenic, *belladonna*, chloral, *copaiba*, mercury, *morphia*, quinine, strychnia, and turpentine. Quinine sometimes causes a vesicular rash.

Urticarial rashes are produced by bromides, *copaiba*, iodides, quinine, santonin, and more rarely by other drugs.

The eruptions produced by the bromides and iodides are so common and so important as to require special description.

The rashes produced by bromides are many: urticarial and erythematous forms are frequent, but the rash which is especially associated with the administration of *bromide of potassium* is a pustular or acne-like eruption. The eruption usually appears in patients who have been taking large doses of the drug, but cases are recorded where almost incredibly small doses have had to be held answerable for its development. It consists in the appearance of a number of follicular pustules, varying in size just like those of acne, but from that disease it is usually pretty easily distinguished by its distribution. Acne has very special seats of predilection, and very rarely extends beyond the face, chest, and back, while the bromide eruption spreads downwards on the trunk, and appears also on the limbs. The lesions are more discrete than those of acne, and there is rarely any difficulty in getting a history of the use of the drug. It may happen that the eruption does not appear until a few days after the administration has been stopped. In children, the eruption is sometimes serious, the individual lesions running together and forming large ulcerated patches.

The *iodide* rash appears in several forms. A papular erythema is sometimes seen; sometimes the eruption, like that produced by bromide, simulates acne; but the eruption which is perhaps more than any other associated with iodine is a bullous one, more resembling pemphigus than any other skin disease. In rare cases the lesions produced are at first solid, and later break down in a manner so similar to the gumma, that one or two patients have been dosed into their graves by the pushing of the very drug which was the original cause of their trouble. In others, large solid tumours have developed, and cases of iodide eruption have been diagnosed as cases of malignant disease or even as leprosy. Iodic purpura is described by Stephen Mackenzie. The dose requisite to produce the rash varies. While the majority are called forth by considerable doses, cases are on record where 5-grain doses continued over a day or two have sufficed to produce serious eruptions. As a rule the more familiar symptoms of the iodism are not produced when the skin is affected.

DIAGNOSIS.—As might be expected, the diagnosis of drug eruptions is by no means easy. Their multiformity and the various diseases which they simulate, all tend to confuse the

observer. But in spite of their simulation of other diseases there is usually something which arouses the suspicion that the diagnosis of the case is not such plain sailing as it at first appeared. Thus the distribution of the erythematous and urticarial rashes is usually more widespread than that of the disease they simulate. For instance, the copaiba rash shows a wealth of erythema of the limbs and abdomen, which is rarely seen naturally, while the eruption of antipyrine is more diffuse than the eruption of measles. The acneiform rash of bromide and iodide, too, is much more widespread than acne itself, while, on the contrary, the gummatoid lesions occasionally produced by iodide are at least often more limited in their spread than is the true gumma. Suspicion once aroused, investigation will do the rest, and, as a rule, the rapid subsidence of the eruption on the stoppage of the drug proves the correctness of the diagnosis.

Feigned Eruptions.—Another and a most important form of traumatic inflammation is the eruption intentionally produced by malingerers or hysterical girls. The particular irritant of course varies. School boys are generally aware that the "fox's pinch" can be produced by moistening the finger with saliva and steadily rubbing one spot on the right hand, and thus they secure freedom from the writing class for a few days! *Nitric acid* is commonly used by the hysterical, while *carbolic acid*, *tartar emetic*, etc., are more or less popular. Some even use burning matches. The lesions produced are always more or less "kenspeckle." The full effect of the irritant is evident right up to the border of the patch; there is not the gradual fading seen in natural disease. The lesions (and this is a very important fact) are almost invariably within reach of the right hand. Cunning as such patients are, this little circumstance usually escapes them, and is often the clue which leads to their detection.

If this self-infliction is suspected, the patient should be carefully watched, the part dressed and so arranged that any tampering with the dressing is at once detected; indeed, the physician must become for such cases a very "Sherlock Holmes."

Rank, education, intelligence can none of them exclude the possibility of self-infliction, and the greatest tact must be exercised in all the investigations so as to avoid complications. It is no doubt in accordance with human nature that the physician should stand by his own patient, but the number

of cases shown to Dermatological Societies, where the exhibitor is in a minority of one against the self-infliction theory is very remarkable and should be remembered in every case.

All the traumatic inflammations usually rapidly disappear when the cause is removed. Naturally, the time required depends on the extent, depth, and severity of the effect. Thus the X Rays often produce an ulcer which takes months to heal, while ordinary sunburn disappears in a day or two. The treatment is of the simplest nature, and is to be conducted on general principles. In sunburn a very useful application is Pick's linimentum exsiccans (p. 17). This, when spread on the face with the finger, dries into an invisible film which is cool, and protects the skin from further irritation, and by its contractility has a directly beneficial influence upon the inflammation. If the dermatitis is severe it must be treated by the application of some soothing ointment (lead plaster and vaseline pts. æq.) or of starch poultices for a day or two, followed by the ointment.

NEUROTIC INFLAMMATIONS.

The diseases grouped under this heading are admittedly somewhat difficult to place. Many regard them, and with a considerable appearance of reason, as being closely allied to the angio-neuroses. On the other hand, members of the class show relationships to the infectious inflammations, and Unna considers it probable that they all belong to that class. Nevertheless, there appears to be exerted in them some influence which we can only attribute to the nervous system, and that influence seems to group them together so far as to justify their being thus described. I have ventured to depart from the strict lines of Unna's classification and to follow the British tendency in regarding Pemphigus as more allied to the Hydroa group than to the infectious inflammations among which Unna places it.

ERYTHEMA.

(ἐρυθρὸς—*red*.)

Erythema (Plates I and II) strictly means redness, and in this sense it has been applied to a number of conditions where redness of the skin was associated with a deep lying disease, such as an abscess or dropsical fluid distending the skin. Like many other of the older names, it has latterly become more

restricted in its use, and for practical purposes it may be taken to mean the disease called by Hebra Erythema exudativum multiforme. This name, though comprehensive, is eminently descriptive of the eruption. We have *erythema*, or redness, *exudation* into the deeper layers of the skin; and the *forms* which it may assume are *many*. In distinction from urticaria, to which it is not very distantly allied, the vessels are not compressed, and the lesions have always a red colour. The accompanying drawing (Fig. 4) is from a section of a nodule on the wrist. It shows the distended vessels surrounded by leucocytes, and a certain amount of thickening of the horny layer absent in urticaria. More frequently than in urticaria the



Fig. 4. Section from a case of Erythema multiforme showing dilated vessels with cellular infiltration around them, and some thickening of the horny layer; $\times 50$.

process of exudation extends to the surface, and there is often in the centre an elevation of the horny layer leading to quite a considerable bulla. Such cases are often diagnosed by those unfamiliar with the disease as Pemphigus (*vide* Plate II).

Certain accompaniments of the disease place it almost beyond doubt that it is brought about by some poison circulating in the blood. Thus it is often ushered in by a rise of temperature and some disorder of one or other of the mucous membranes, or by pains about the joints. In many cases the eruption is roughly symmetrical, attacking both hands or both feet, both arms or both legs. Like a great many skin diseases, it is said to be more common in spring and autumn. If the terms spring and autumn be enquired into, it will generally

be found that they must be considerably expanded in order to fit in with this theory. It is most common in the young, and there is a very suggestive connexion with the rheumatic poison, more marked in some forms of the disease than in others.

Erythema Nodosum.—The forms of the disease differ so much that it is necessary to consider them separately. First, we may take the, to students at least, best known form, erythema nodosum. This, like the disease in general, is most common in young adults, affects the female sex in the proportion of two to one, and is accompanied by greater or less constitutional disturbance, and often by pains in the joints, sometimes so severe as to suggest the onset of acute rheumatism. There then appear on the extensor aspects of the legs and arms, below the knees and elbows, much more frequently on the legs, and practically never on the arms alone, a series of "oval swellings with their long diameter parallel to that of the limbs." Although, no doubt, the oval swelling is the most typical form assumed by the lesions, they are by no means invariably of this shape. In the coloured drawing (Plate I), in which the shape of the lesions is checked accurately from a photograph of the case, it will be seen that they are the exception rather than the rule. The Plate also shows lesions at various stages; some are fresh, others in process of disappearing. At first bright red, they soon become dusky, and a purplish tint makes its appearance. At first firm and tense, and very tender on pressure, they afterwards become softer and give the sensation of containing fluid, though they never suppurate. The first eruption is rarely the last; repeated crops make their appearance and prolong the duration of the disease from three to six weeks. One attack does not protect from subsequent ones, but there is no great tendency to recurrence.

The connexion of this form of the disease with rheumatism is very apparent. It frequently occurs in rheumatic patients, and most frequently in those who have suffered from some of the other diseases which are associated with that poison. Thus, a girl under my care had a very typical attack of Erythema nodosum. She had never had acute rheumatism, but she had had chorea, endocarditis, and quinsy.

The disease must be clearly distinguished from a much rarer condition, Érythème induré des scrofuleux, or Bazin's disease, which will be described among the tubercular affec-

tions of the skin, and which also finds its victims in young women.

The treatment of this form of erythema is fortunately simpler and more satisfactory than that of most of the diseases of the skin which are due to internal poison. By almost universal accord salicylate of soda* is looked on as almost a specific. It should be given in doses sufficient to produce its full effect. There is one other specific for Erythema nodosum and that is *rest*, which is as important, if not more so, than the administration of any drug.

Erythema iris (*iris—a rainbow*) is another form which has a very characteristic appearance. It is most common on the hands and feet, very frequently also, in my experience, *attacking the mucous membrane of the mouth*. In it the fluid makes its way to the surface and raises along the border of the spot a ring of vesicles (Herpes iris), or produces a considerable bulla in the centre (Erythema bullosum). Each spot has more or less a ringed shape, and there is often a certain play of colours in the different rings, whence arises the name Erythema iris (Fig. 5). This form of the disease seems gener-



Fig. 5. Erythema iris. Showing the "target"-like spots. The patient had also lesions on the mucous membrane of the tongue.

ally to attack those who are run down in condition, and I have several times seen it follow prolonged alcoholic excess. The appearance on the mucous membrane of the mouth is much commoner than one would gather from many

* Salicin, salol, etc. are usually equally efficacious, in exceptional instances more so.

PLATE I.



ERYTHEMA NODOSUM.

text-books, and the small ulcers into which the lesions are rapidly transformed not infrequently lead the inexperienced to diagnose such cases as syphilis. There is not, as a rule, much pain in connexion with this form of erythema, and the general constitutional disturbance is often slight, but it is almost a certainty that the first will not be the last attack.

Left to itself, each attack runs its course in two or three weeks, and in slight cases very little treatment is required. Salicylate of soda is by no means such a specific for this variety as for Erythema nodosum, but it is helpful in many cases. If it fails, quinine often succeeds. In this form external treatment is usually required, not that it does anything to cure the disease, but it is useful in preventing the infection of the very frequently ulcerated spots. It consists in the application to them either of some mild antiseptic ointment such as ammoniated mercury (grs. v to ʒj), or of some protective application, such as Unna's gelatin (p. 18), before the vesicles rupture.

Peliosis rheumatica (πᾶλις—*livid*).—This is another variety which presents such constant peculiarities as to entitle it to a separate description and name.

The disease commences by some systemic disturbance, rise of temperature (up to 102°), and *joint pain*, especially in the knees and elbows. In a day or two the lesions begin to appear, usually in the neighbourhood of the painful joints. In many ways they do not differ from those of Erythema nodosum, or multiforme; they are hyperæmic, and elevated from the escape of serum; but more or less hæmorrhage is *constantly present*. Just as in Erythema nodosum, the appearance of fresh crops of lesions prolongs the disease, which frequently lasts several weeks. The spots go through the ordinary discolouration process of cutaneous hæmorrhage and finally disappear, leaving no trace of their presence.

The rheumatic relationships of the disease are pretty evident, though why the lesions should be constantly hæmorrhagic is unknown. The occasional cutaneous hæmorrhages occurring in the course of acute rheumatism should not be too readily christened *Peliosis*. Some of them are almost certainly brought about by the salicylates with which the case is being treated. The erythema is the primary, the hæmorrhage a secondary, though invariable feature of the disease.

TREATMENT.—This is to be conducted on the same lines as that of Erythema nodosum. Rest, as in all hæmor-

rhages, is of even more importance than in that disease. The fact that the salicylates occasionally bring about cutaneous hæmorrhages need not be seriously considered. Even if a few additional ones are produced, they are of little account when the drug is gradually overcoming the disease. Quinine may, however, be substituted if desired.

Erythema multiforme.—There still remain a number of forms of erythema so numerous that they may all be grouped together as erythema multiforme. If the forms already described are excluded, it may be said that those now to be described affect the trunk and face more than the limbs. Raised, red patches of various shapes appear on different parts of the body, and the process of exudation may extend to the production of bullæ or even hæmorrhages. In short, the line between this class of case and red urticaria is often exceedingly difficult to draw. The history and the progress of the diseases do, however, differ. Erythemata are, as a rule, more prolonged, and they are usually accompanied by more systemic disturbance than is urticaria. The lesions, too, are more persistent and indicate a more serious affection of the vessels than is present in that disease.

These cases are by no means so distinctly related to rheumatism as are the named varieties. The eruptions are much more chronic, persisting, it may be, for months, while rheumatic symptoms are chiefly conspicuous by their absence. I would except from this statement a form of disease which attacks the face and trunk, the lesions of which are circular and somewhat resemble those of erythema iris. Such cases, though not associated with much pain, are very amenable to the salicylate treatment, while the typical Erythema multiforme lesions with their irregular shape are by no means frequently influenced by that drug. On the other hand, Plate II illustrates the reverse condition. The situation on the arms and the escape of the fluid from the corium into the epidermis, clinically evident as a bulla, indicate a relationship to the "Iris" variety, but the drawing is taken from a patient who had had the disease for months; that is to say, in its course it followed the type of Erythema multiforme, using the term in its restricted sense. It is a case like this which the inexperienced are apt to diagnose as pemphigus, overlooking the fact that the exudative erythema is the primary change, and the escape of fluid more or less accidental. The fact is, the varieties of erythema are infinite in number, and but little is gained by





expanding descriptions of rare though interesting forms. In all cases it is necessary to enquire very carefully into the general health, and to correct any disorders, especially of digestion or of the excretory system which may be present, while, in my comparatively limited experience of the disease, gout has not infrequently been a suspicious complication. If no cause can be found the disease must be treated symptomatically, and sulphur, administered thrice daily in 5-grain tabloids, seems to have more effect upon the disease than the salicylates or quinine.

CHILBLAINS.

(*Erythema pernio.*)

In most works this is considered as a variety of erythema. It must be admitted that in many respects it does not closely resemble the other varieties of that disease. While they are apparently dependent on some internal poison, chilblain is very clearly dependent on the external application of cold. For its development something more is required however, and Unna considers it to be most correctly described as an acrocyanosis (*ἀκρος—a point*), for some weakening in the vessel tone, some deficiency in the circulation at those extremities (fingers, toes, ears and nose) where the circulation is normally least vigorous, is necessary before the effects of cold are shown in the development of chilblains.

The symptoms are, unfortunately, only too familiar. The irregularly round, itching, burning patches which appear on the situations above alluded to, and which, when neglected or improperly treated sometimes go on to form small indolent ulcerations, usually require very little skill for their diagnosis.

They are found, of course, most frequently in those whose circulation is evidently weak, and, therefore, with exceptional frequency in the subjects of tuberculosis; but there is no etiological connexion with that disease.

There is only one disease with which chilblain can be confounded, viz., Lupus erythematosus. When that disease affects the fingers alone (the face remaining free) the diagnosis is often attended with great difficulty. If scars or the typical mortar-like scales of lupus erythematosus are present the distinction is easy, but when the disease takes the œdematous form and leaves no scars, one is sometimes driven to wait until the return of warm weather settles the matter.

The two diseases seem to be in some mysterious way related, for the subjects of lupus erythematosus very often suffer from chilblains, while one sometimes meets with a sort of intermediate condition attacking the ears and leading to some loss of substance.

TREATMENT.—This is to be directed on lines designed to improve the circulation, both general and local. Cod-liver oil and tonics, such as quinine and iron, should be administered internally. Cold must be avoided ; the water for washing must be hot ; the skin must be thoroughly dried and warmly clad. Tight boots should be rigorously avoided, and vigorous walking exercise should be taken to promote the circulation. The local applications recommended are legion, but they all have one aim, viz., to increase the vigour of the circulation. Iodine is one of the best ; the ointment, the tincture, or tinct. iodi (3j), collodion (3j) ; any of these may be used. Oil of turpentine, Peruvian balsam, oil of camphor (3j-3j), have each their advocates. Boeck, of Christiania, whose opportunities of observing the effects should be numerous, recommends ichthyol, tannin, resorcin, āā 3j, aquæ 3v, to be painted on at night.

When the circulation is once more vigorous the cure may be hastened by the application of absolute alcohol (Kaposi, Unna), or simple collodion.

When ulceration has taken place some simple ointment should be applied. Leistikow gives the following as an old and valuable prescription :—

R	Balsam. Peruvian.	3j
	Argent. Nitratis	gr. v
	Ung. Spermaceti	3j

PRURIGO.

(*Prurire—to itch.*)

As already explained, this disease must be very clearly distinguished from pruritus. In addition to itching, it is characterised by definite lesions in the skin. The cases may be divided into two classes, Prurigo mitis and Prurigo gravis, with certain features in common, but certain distinct differences.

The first variety, which was described by Willan, usually commences in adults. Nodules appear in the skin, especially on the extensor surfaces of the limbs, more rarely on the

trunk. They may be faintly reddened, but often have the same colour as the skin. The papules are scratched soon after their development, and a scab surmounts the lesion. Although the spots may to a certain extent run together, they never develop a weeping surface, and thus the disease is distinguished from eczema. The disease is fortunately rare, as the prognosis is unfortunately grave, the disease lasting in spite of treatment for years.

Prurigo gravis, or the true prurigo of Hebra, is an affection which commences in infancy, increases during adolescence, and lasts for life. In some respects it closely resembles the previous disease, but the papules are much more numerous, a fact which is more perceptible to the touch than to the eye. If the hand be passed over the extensor surfaces of the limbs a sensation as of stroking a nutmeg grater is conveyed to the observer. The glands draining the affected regions are always enlarged, the inguinal glands especially so.

In a fully developed case the patient is anæmic, the skin is dry and pigmented, and the amount of subcutaneous fat is notably diminished. The flexures of the joints are almost invariably spared.

The disease is comparatively frequent on the Continent, but its very existence in this country has been denied by many competent observers. At the International Congress of Dermatology held in London in 1896, however, cases were shown which the Vienna authorities unhesitatingly diagnosed as true prurigo. These cases had previously been looked upon as cases of aggravated so-called Lichen urticatus (see "Urticaria"), and it seems by no means improbable that prurigo, in many cases at least, does commence in infancy as an urticaria. At all events, it is unlikely that the many careful observers of this country should have overlooked altogether a disease which, according to the continental authorities, is practically incurable, and it would seem that the better conditions of life under which our poor live have some influence in rendering cases of infantile urticaria more amenable to treatment. Once the disease is fully developed the prognosis is very bad. While great amelioration may take place, cure is almost unknown. This should stimulate the efforts of the physician in his management of obstinate cases of urticaria in children. When the lesions are examined microscopically the connexion with urticaria becomes more evident. There is œdema of the cutis and an increase in the cells around the vessels.

There is, however, in addition, a change in the epidermis in the direction of producing a vesicle there. The vesicle does not, however, continue its development to a fluid-containing sac, but dries up and forms the little papule already described.

TREATMENT.—For the early urticarial cases see “Urticaria.” For the fully developed cases, prolonged bathing, generous diet, and rest in bed are all important; as local applications, soft soap, tar, salicylic acid, sulphur, or β -naphthol ointments are of some value.

HYDROA.

(ὕδωρ—*water*.)

The term Hydroa is an ancient one revived. Its presence in the name of a disease indicates that the eruption is bullous or vesicular.

Dermatitis herpetiformis.—The typical member of the group is the disease known as Dermatitis herpetiformis or Duhring's disease. Unna calls it Hydroa mitis or gravis. Judging by experience in Edinburgh, this disease is not so rare as might be gathered from some sources. It is a chronic affection of the skin characterised by regularly recurring, wide-spread, itching eruptions, the characters of which vary greatly. Sometimes these eruptions are vesicular, sometimes bullous, and sometimes erythematobullous. The lesions may vary in appearance both in different cases and at different periods in the same patient. The eruptions, whatever be their nature, erythematous, vesicular or bullous, come out in groups, pretty suddenly, and they have a distinctly symmetrical tendency. Very frequently the scapular regions are specially affected. The disease is certainly more common in men, and no class is exempt from its attacks. Although the lesions often look sore enough, the patient's great complaint is itching, and he will tear open vesicles and score his nails through erythematous patches in the endeavour to get relief from this distressing symptom. The little vesicles are rather deeper in the skin than one would gather from their clinical appearance, and while it cannot be said that they actually leave scars, they do leave behind them traces of their existence which at all events persist for a considerable time. When a section is examined under the microscope the reason of this is evident. The cover of the vesicle is practically the entire epidermis, and that being destroyed, the fact that the result resembles a

scar is not surprising. Most chronic itching skin diseases are accompanied by some pigmentation. In dermatitis herpetiformis this is very marked, and it is present often in the form of little rings surrounding the site of each previous vesicle.

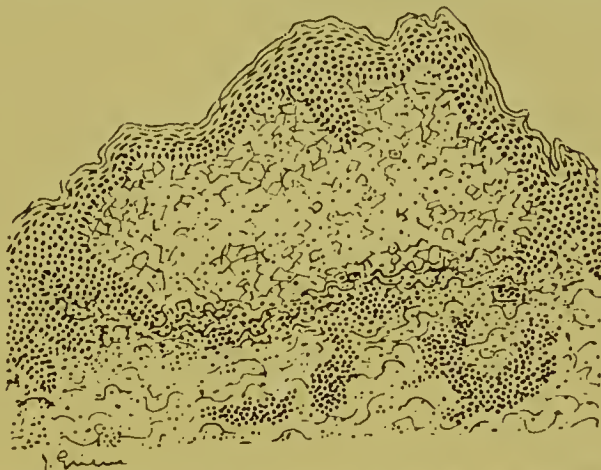


Fig. 6. Dermatitis herpetiformis. Cover of vesicle is practically the entire epithelial layer. In the vesicle are threads of coagulated fibrin and a few leucocytes. The vessels beneath are sheathed with exudation cells.

DIAGNOSIS.—It is not always, or indeed often, easy to diagnose this disease at the first sight of a patient. The disease with which it is probably most frequently confounded is pemphigus, and, indeed, several eminent observers still deny that there is any real distinction between the two diseases. The fact is, pemphigus is an exceedingly difficult disease to define, and some make it include more cases than others. The following points for diagnosis may be indicated. In pemphigus the bulla is usually larger, and it arises *on previously unaffected skin*. In dermatitis herpetiformis, though it varies in size and may sometimes be large, it is usually small and is surrounded by an erythematous halo, or a group of vesicles may arise on an erythematous patch. In moderate cases of both diseases there is comparatively little affection of the general health. In severe cases of pemphigus the patient is generally seriously ill; in severe cases of dermatitis herpetiformis usually astonishingly well. From erythema multiforme it is distinguished by the intensity of the itching, which, indeed, is severer than in almost any other disease; and by the more constant occurrence of bullæ and vesicles. These undoubtedly do occur in erythema, but more exceptionally and usually later in the career of each spot.

PROGNOSIS.—This is good as regards life, if the patient

does not commit suicide on account of the mental disturbance brought about by the itching, but with regard to a speedy cure it is most undeniably bad. Cases last almost always for a year or two, and sometimes for a considerable number of years. But the hope of ultimate recovery may generally be confidently extended to the patient.

TREATMENT.—The prolonged course in itself strikingly indicates the difficulty and want of success of treatment. There are three things which are useful in the treatment of Dermatitis herpetiformis. *First* and most important is **Rest**, and freedom from work and worry. In hospital practice a patient who has perhaps suffered from the disease for three years will very probably be quite free from his eruption after a three weeks' stay in hospital under very little specific treatment. In the better classes a visit to Harrogate or to some rustic spot, with or without special baths, will in most cases be followed by the same excellent result. But no sooner does the patient return to his work than the disease breaks out in all its former vigour. The longer the rest, however, the better is the chance of a longer period of freedom.

The *second* remedy is **Arsenie**. As one who is not in the habit of prescribing the drug very freely, my testimony to its value in this disease is unbiassed. I have seen cases which had improved steadily though slowly under its use, instantly relapse on a stoppage of the drug, and I think it should be used in all cases otherwise suitable. It should be given judiciously (*vide* p. 12). The routine practice of giving 5 minims of Fowler's solution three times a day and appraising the value of the drug from the results, is not fair either to the drug or to the patient.

The *third* remedy is one which certainly would not suggest itself as a likely one in the disease. It has, however, proved itself of value, and **Sulphur ointment**, first recommended by Prof. Duhring, the original describer of the disease, is one of the best treatments. It is to be applied freely and rubbed well in; in fact the patient is treated almost as if he had scabies. The mechanical rubbing ruptures the vesicles, and this alone wonderfully relieves the itching, a fact which patients usually find out for themselves, while the sulphur seems to have some mysteriously beneficial influence on the disease. At all events most patients improve under it.

There are, as is to be expected in such a chronic disease, very many other remedies occasionally used. Unna applies

ichthyol externally, and gives it internally. Carbolic oil is recommended by Morris, while tar, sublimate, indeed all those remedies which relieve itching, are often applied externally. Brocq gives atropine internally, and Arning salicylate of soda, while others give belladonna, nux vomica, quinine, ergot, etc. Of these I believe quinine and nux vomica to be the best.

Attention to the general health is, of course, to be paid ; indeed, this may be taken for granted in all references to treatment throughout this book. It stands to reason that if there is any disturbance of the general health its correction will give the patient a better chance of overcoming a disease of the skin or of any other special organ.

Hydroa gravidarum and **Hydroa vaccini-forme** or **puerorum**.—These two diseases must also be placed in this group. They are both rare, and detailed descriptions of them may be found in most of the larger text-books.

The former, also known as *Herpes gestationis*, is regarded by Duhring as *Dermatitis herpetiformis* occurring during pregnancy. The lesions are usually bullous, and the prognosis is grave.

The latter is very well described by its names. The lesions resemble those of vaccinia and appear on the faces and ears of boys during the spring and summer months. Their appearance seems to have some dependence on the effects of sunlight. The disease recurs year by year, gradually becoming less severe, but invariably leaving traces of its presence in the scars of its lesions.

It must be treated by protecting the skin from the injurious rays of the light (*vide* "*Xeroderma pigmentosum*").

PEMPHIGUS.

(πέμφιξ—a blister.)

Pemphigus (Plate III) is not an easy disease to define, nor is it easy definitely to assign it a place. As already mentioned, it is placed among the neurotic inflammations because the common type of the disease seems to be most closely related to others of that class ; the rarer varieties of the disease, though they usually present more affinities to the class of infectious inflammations, must defer to the majority.

As the name indicates, pemphigus is a bullous disease. But not all bullous diseases are pemphigus, and great confusion has resulted from diseases in which bullæ are present

accidentally being so described. These will be referred to under diagnosis. The generally recognised varieties are: *Pemphigus vulgaris (chronicus)*, *Pemphigus foliaceus*, *Pemphigus acutus*, *Pemphigus neonatorum*, and *Pemphigus vegetans*. Of these, *Pemphigus vulgaris* may be taken as the type of the disease, and as the variety referred to when the word is used alone.

It is doubtful whether *Pemphigus acutus* and *Pemphigus neonatorum* should not be regarded as simply septic bullous rashes, for their course differs very much from that of the common variety, while, were it not that *Pemphigus foliaceus* occasionally develops from *Pemphigus vulgaris* it would appear more fitly among the infectious inflammations. To *Pemphigus vegetans* Unna altogether denies the right of the name.

When examined microscopically, the bullæ have a close resemblance to those of dermatitis herpetiformis, the cover of the bulla consisting of the greater part of the prickle layer. Cocci have been found by Demme and others, and they are claimed as the possible cause of the disease. They are, however, found especially in the acute forms, where their presence is more easily understood. With every inclination to accept external agents as the causes of disease, it seems impossible in this one to doubt that it is in the nervous system we must seek for the probable cause of the typical form of the disease.

Pemphigus vulgaris chronicus is a disease characterised by the appearance of blebs, varying in size from a pea to a hen's egg, on apparently healthy or very slightly reddened skin. The bullæ are at first clear, tense, and have no red halo; later they become opaque, flaccid, and surrounded by an inflammatory ring. The vessels may rupture and blood be added to the contents of the bulla (*P. hæmorrhagicus*). They are usually accidentally ruptured, and the contents discharged. Healing is rapid, and takes place without any scar. There is usually some redness, and often some discoloration left.

The disease is kept up by the appearance of fresh crops of bullæ, and the duration is a quantity of infinite variance. Plate III, for which I am indebted to the kindness of my friend Dr. James Galloway, gives a very good idea of a typical, somewhat severe case. Bullæ in all stages are seen, some recently developed, others flaccid, and others in process of scabbing.

PLATE III.



PEMPHIGUS.

PROGNOSIS.—Some cases end comparatively soon and favourably. The majority, however, go on for months or years, gradually getting worse and as gradually getting better, until at last the patient is freed from his ailment. A certain proportion of cases develop into the foliaceous type. Prognosis is therefore somewhat difficult. It should always be guarded, and in elderly patients always grave. Old people attacked by pemphigus are very likely to die. Sometimes this is due to exhaustion, but oftener it is to be ascribed to the occurrence of the lesions in organs more necessary to life than the skin, such as the intestine, bronchial tubes, etc., while it is frequently the result of some intercurrent disease.

DIAGNOSIS.—The diagnosis of Pemphigus is not difficult to the experienced eye, but there is undoubtedly too much laxity in its diagnosis by those whose experience is small. The appearance of bullæ on the skin is not sufficient for the diagnosis of pemphigus. Bullæ may develop accidentally in very many diseases, especially in urticaria, erythema, and dermatitis herpetiformis, and even in such a common disease as scabies, very well-marked bullæ may be seen. Drug



Fig. 7. Fullous eruption "Septic" Pemphigus.

eruptions, too, may take a bullous form, the most common being that due to iodide. They are, however, always comparatively easy to distinguish; in all of them erythema or some other lesion *precedes the development of bullæ*.

There is, however, another class of cases which may, for lack of a better name, be distinguished as *septic* pemphigus, where the bullæ develop as in the true disease on apparently normal skin. The illustration (Fig. 7) (for which I am indebted to my successor in Dalston, Dr. Doughty), shows a bullous rash in the neighbourhood of a tubercular sinus. In such cases, some poison, almost certainly microbic in origin, is evidently responsible for the appearance of the bullæ. Eruptions of this description sometimes spread over a considerable extent of surface, but are not to be regarded as cases of pemphigus vulgaris, though they are probably nearly related to *P. acutus*.

TREATMENT.—The fact that the disease appears on apparently healthy skin should suffice to indicate that external treatment is of comparatively little value.

Local treatment is indeed confined to simple surgical procedures. The bullæ should be opened, and some simple dressing applied to promote their rapid healing.

General treatment is evidently indicated, but unfortunately the remedies used are distinguished more by their number than by their efficiency.

Mr. Hutchinson says that arsenic is our *sheet anchor* in treatment. It is fortunate that our mercantile marine have more reliable anchors than that furnished by arsenic in this disease. While probably the most trustworthy of a number of very unsatisfactory remedies, it very often fails, and we are driven to vague generalities about keeping up the general health, strengthening the system, etc.

Probably the best thing which can be done for a well-established case of pemphigus is to advise change of air and complete rest from work and worry.

Arsenic should be given judiciously in gradually increasing doses, until we are satisfied that the limit of tolerance has been reached, or that no benefit can be looked for. In such cases a trial may be given to other tonics; quinine or perchloride of mercury will be found useful in some instances, and ichthyol may also be tried. No miracle must be expected: these drugs must have the same patient, prolonged trial as the arsenic, for time is in all cases of pemphigus a great remedy.

Pemphigus acutus.—Acute pemphigus is so rare that its very existence is denied by many authors, who regard the cases so described as aggravated forms of impetigo contagiosa or erythema bullosum.

The disease may or may not be accompanied by fever and malaise; it occasionally occurs in epidemics, and it usually runs its course to a favourable termination in about a month. Sometimes the attack is "malignant," and the case terminates fatally. Duhring says: "occasionally it passes into the chronic form."

Pemphigus neonatorum.—This form of the disease is very clearly due to some external poison. It almost invariably occurs in epidemics, often in a lying-in hospital, or in the practice of one particular midwife. The bullæ are spread very extensively over the surface of the body, but almost invariably spare the palms and soles, and thus facilitate the diagnosis from the congenital bullous syphilide. The prognosis is good, cases usually recovering in two or three weeks.

TREATMENT.—All that these two varieties require in the way of treatment is the administration of suitable food, and the application of some mild antiseptic.

Pemphigus foliaceus.—This may arise from an aggravation of pemphigus vulgaris; sometimes it is primary. The bullæ never reach the height and tension which those of the common form do; soon after forming they become flaccid, and their contents discharge. This results in the presence on the skin of large flakes of epidermis, which, stained with blood and coagulated exudation, have a certain resemblance to withered leaves—hence the name "foliaceus" (leaf-like). The appearance of the surface is also compared to that of flaky pie-crust. The eruption is widespread, usually almost universal, and the decomposition of the excretions gives rise to a peculiar sickly odour. The subjects of this disease, as of all others which are so widespread, are particularly liable to the effects of chill, and pneumonia and bronchitis often supervene.

DIAGNOSIS.—The presence of large flat bullæ easily distinguishes this from any other moist catarrh of the skin.

PROGNOSIS and TREATMENT.—The only hope for a patient with this variety of the disease is to spend his life in a bath. One patient I saw at intervals during four years, under the care of Dr. Unna, and the remedies tried on him were legion. The most successful were those which aimed at making the skin more resistant to attacks. The patient was treated like a pathological specimen. He was hardened in Müller's fluid, in picric acid, in ink, and in a variety of other reagents, and when I last saw him he was able to be out of his bath for a considerable time each day. Arsenic is not of much value in

this variety of the disease. Most cases terminate fatally, and the prognosis is, therefore, always very grave.

Pemphigus vegetans (*Erythema bullosum vegetans*, Unna).—In this disease, which is fortunately very rare, the primary lesion is a little red spot, usually in the genital or axillary regions, or in the neighbourhood of the mouth. The spot enlarges, and blebs appear on the surface. These soon dry up into crusts, and then the fungating, condylomatous growths, from which the disease gets its name, develop.

DIAGNOSIS.—The diagnosis from syphilis, which it somewhat resembles, is to be made by observing other signs of that disease and the results of treatment.

It always terminates fatally, and treatment is merely symptomatic.

HERPES.

(ἔρπειν—to creep.)

Whatever may have been the significance of this name when first used in connexion with disease, the name as applied to a skin disease now implies two things: (1,) Vesicles; (2,) Grouping of these. This meaning has gradually developed, but has now by no means so wide an application as formerly. Thus the terms *Herpes iris*, and *H. tonsurans* are usually only mentioned either to fix in students' minds the vesicular element in a disease, or else to show how undesirable is their use. Practically the name is restricted to three diseases: *H. facialis*, *H. genitalis*, and *H. zoster*, while the adjective, *herpetiform* (*e.g.*, *Dermatitis herpetiformis*) may be used to convey information about the form of the lesions in any disease.

Herpes facialis (*labialis* was too restricted) is to some people an unfortunately familiar condition. It must be clearly distinguished from attacks of *H. zoster* (Plates IV and V), which may appear on the face, as on any other part.

The first symptoms are a little itching, and a feeling of tension in some part, most commonly the lips or their immediate neighbourhood. Then there develops a slightly swollen reddish patch, which is very soon covered with vesicles. The patches are usually single, but there may be two or three, even at the commencement. When the vesicles have become purulent and are irritated and scratched, secondary ones may develop from inoculation. If left alone, the vesicles dry up

into a scab, the process is at an end in a week or ten days, and the patient is free until the next, almost inevitable, attack.

In those subject to it, any derangement of health, often so trivial as to pass unnoticed, is apt to be followed by an outbreak; and more serious ones, such as severe chills, are almost certain to be so followed. Some cases are said to recur periodically, but in my experience, though such cases do occur, their number is small; most of the so-called periodic cases occur in those exceedingly elastic seasons, spring and autumn. Scratching and dirt may confer on the vesicles the character of impetigo, and that disease will, of course, last until measures are taken for its removal.

TREATMENT.—Of this I am unfortunately able to speak from a prolonged personal experience. When the vesicles have once developed, nothing can be done except to preserve them from irritation, and, if possible, from rupture. When on the red lips they are of course almost certain to rupture, but are not so apt to become pustular as are those on the skin. Those who by prolonged experience are familiar with the earliest signs of an attack, may do a good deal to restrict it to moderate limits. Bathing the part with very hot water, or the application of collodion, will often check any further development, as will the less pleasant application of caustic. In the periodic form, much benefit is often derived from the latter treatment. If, in each attack, the affected region is painted with Arg. nit. (gr. xx), Spt. æther. nitrosi (ʒj), the intervals between the attacks are distinctly increased, and a cure may in time be brought about.

Herpes genitalis, a much better name than *H. preputialis*, in many ways closely resembles the preceding disease. Like it, it appears after some disturbance of health, very frequently after the combination of Bacchus and Venus, while it also tends to recur. The method of recurrence, however, is different. While *H. facialis* gets quite well, and remains so for perhaps a year, *H. genitalis* once present is apt to break out at very short intervals, usually following on some local irritation. Attack may follow on attack, but once fairly away it is much less apt to return than the eruption on the face.

DIAGNOSIS.—Its main importance is in connexion with its diagnosis from venereal affections, and there must be very few who have not at least once found that time has corrected their diagnosis for them.

That with which it is most likely to be confounded is the soft sore, and the points of distinction between the two which in most cases enable a correct diagnosis to be arrived at, are the following: (1,) The lesions (vesicles) are multiple, and appear on a reddened, slightly swollen area of skin. Unfortunately, cases are very rarely seen at their commencement, and the moisture and heat of the part have usually led to the destruction of the tops of the vesicles, and their conversion into ulcers. The soft sore is usually at first single. (2,) The ulcers are usually cleaner, not so overlaid with pus as in the soft sore. (3,) There is more itching and burning than in that condition. (4,) The lesions are not auto-inoculable. If the discharge from a doubtful case be carefully inoculated on the patient's thigh, and the result is merely a little redness, the case is herpes, while in the other a typical soft sore will develop.

The primary lesion of syphilis may also in exceptional cases closely resemble herpes, though in the majority of such cases it is possible that both diseases are present, the sclerosis being at first not developed. Most of the distinctions from the soft sore hold for the more serious condition, but in all cases of *H. genitalis* it is well for the young practitioner to practise caution and wait for developments before absolutely committing himself to a diagnosis. Were the history in such cases to be depended on, much might of course be learned from it, but the more one sees of such cases, the less becomes one's faith in their history as an aid to diagnosis.

TREATMENT.—This is simple. The application of powdered boric acid or any other unirritating powder usually suffices. A little salicylic acid (1–2 per cent.) is sometimes of value in obstinate cases, and all irritation of the parts should be avoided for at least six weeks after the disappearance of the eruption.

Herpes zoster is the name round which most of the associations of herpes linger. Zoster means a girdle, and was originally applied to the form of herpes which appears first about the line of the spine, and spreads round the chest to the front in the form of a girdle. The popular name "shingles," is derived from the Latin "*cingulum*," a girdle. This form of spreading, indeed this distinct variety of the disease, or disease *sui generis*, is, however, not confined to the thorax, and the name has been extended to include all cases wherever occurring. The disease usually commences with



PLATE V.



HERPES ZOSTER.

pain or a sensation of burning, after which there appear in succession crops of little vesicles on an erythematous patch. Both the patch and the earlier vesicles enlarge for a day or two, while new ones appear in advance of the older spots. The linear distribution is not invariable. Sometimes only one, or it may be two, patches of vesicles on an erythematous base appear, and run a typical course without any successors. The pain preceding such attacks is often exceptionally severe, and as no "zoster" appears, the true nature of the case is often unrecognised. In two cases recently under my care, the single patches were seated one on the chest, and the other in the external auditory meatus.

Common shingles is familiar to everyone, and it has therefore not been thought necessary to give an illustration of it. Plates IV and V are illustrations of typical attacks of brachial and cervical zoster. Fig. 8 is a section from Plate V.

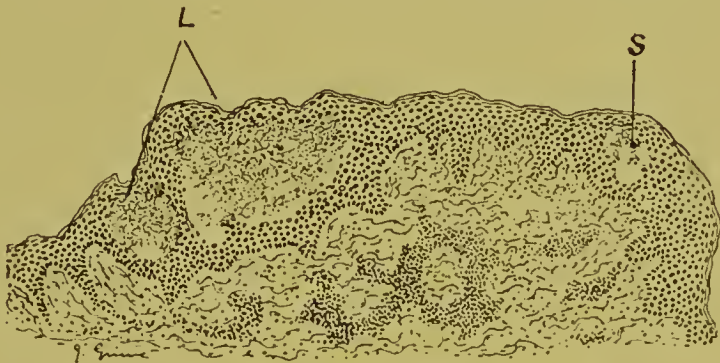


Fig. 8. H. zoster. Shows large loculated vesicle, *L*, and a smaller single one, *S*. Both contain threads of fibrin, and a few leucocytes. Note the position in the prickly layer, and the infiltration around the vessels in the corium; $\times 50$.

It shows the seat of the vesicle in the prickly layer, and the multilocular character which is often present. The fact that there is a considerable amount of epidermis below the vesicle explains how such cases heal without scarring. In normal cases the vesicles soon dry up, in a week or ten days the scab is separated, and the patient is recovered. Such is the course in young people, but in those beyond middle life not only is the pain at the commencement usually more severe, but it persists in a still severer form after the local manifestation has passed away. Unless from some complication the vesicles have become purulent, there is no resultant scarring, except in supra-orbital herpes, where there is usually some conjunctivitis, and where scarring is the rule rather than the exception.

ETIOLOGY.—The nature and etiology of the disease have long been a subject of dispute. Before entering on any of the theories, it is well to note certain facts which are almost universally admitted. There is usually some general disturbance of the health a day or so before the eruption appears, with it may be a little elevation of temperature. One attack of the disease almost certainly protects from subsequent ones, and in the experience of those who are in a position to see a large number of cases, it is very clear that the disease occurs in small epidemics. The point in dispute is whether the disease is associated etiologically with the nerves or with the blood-vessels. Observations have been made on both sides. The ganglia of the nerve roots have occasionally been found degenerated, and hæmorrhages have been described, while in the vessels emboli have been detected. Intercostal herpes, the occurrence of which is brought forward in favour of the nerve theory, does not seem to me to follow so closely the course of the ribs as it should do were the distribution to follow the nerve directly, but when it affects the limbs or the occipital region, its distribution is more in conformity with this view. Unfortunately, however, this admission is not allowed by those who hold the blood theory, who point out that the blood-vessels are distributed in a very similar method to the nerves. The pain which is present before the eruption might reasonably enough be due to tension, but the long persistent neuralgias which occur in old people after the eruption has passed away, seem to be a weighty piece of evidence on the side of the nerve. The occurrence in epidemics and the protective influence of one attack are almost equally weighty on the other side, and it does not at present seem possible to make any decision between the two theories. The disease is said to occur more frequently on the right side of the body, and occasionally the eruption is bilateral, an occurrence which has not the fatal significance attributed to it by the wise women of country districts. Young people are liable to the disease, and it is indeed quite common in children, in whom, as already mentioned, the pain is less pronounced than in adults. Mr. Hutchinson has drawn attention to the fact that people who are under the influence of arsenic are attacked by the disease with a frequency which appears to be more than a mere coincidence.

TREATMENT.—As the disease has a distinct course, and a natural tendency to get well, the aim of treatment is simply

to allow this to go on without interference. Locally, I believe the best application to be Unna's zinc gelatin, which when painted on the spots at their first appearance, seems to arrest their further development, and lead to their more rapid disappearance. Others recommend free powdering of the part with some harmless powder, and the application of a roll of cotton-wool and a bandage. The object of all local treatment is simply to prevent the lesions from being ruptured and contaminated with dirt or micro-organisms. The pain is sometimes so severe that hypodermic injections of morphia are required, but usually antipyrine or some similar preparation suffices to make the pain at least bearable. For the treatment of the persistent neuralgias which are especially liable to occur in elderly people, a prolonged course of tonics is often requisite. Arsenic, phosphorus, iron, bromide of potassium, etc., have their advocates, and in very obstinate cases the use of the constant current is sometimes followed by great relief. When ulceration has occurred, attention should be directed to the cleansing of the part, and the prevention of the absorption of the poisonous products by dressing with some antiseptic ointment. In supra-orbital herpes occurring in men, perhaps no special precautions need be adopted, but when the disease occurs in young ladies, efforts should be made to prevent the development of the very considerable scars which usually follow that form of the disease. This is best done by removing the scab, on the amount of pressure exercised by which depends the depth of the resultant scarring. The part should then be kept soft by the free application of ointment, so as to give the granulations every chance to replace the loss of substance.

INFECTIOUS INFLAMMATIONS.

Strictly speaking, the infectious fevers belong to this class, but since they are not in this country regarded as diseases of the skin, and since, indeed, the skin lesion is in most of them a comparatively unimportant feature, we shall pass them over and consider only the local infectious inflammations of the skin proper.

Among these there are one or two which have the power of generalising, such as anthrax (splenic fever), glanders and tuberculosis. In considering them as local infectious inflammations we shall consider only their local effects upon the skin.

The local infectious inflammations of the skin may be divided into those of the epidermis and those of the corium, with one or other of these as the main seat of the eruption. The inflammations of the epidermis may be subdivided according as they are seated in the surface epithelium or in the glands and follicles of the skin. Those seated in the surface epidermis, the superficial inflammations or cutaneous catarrhs, may be further subdivided according as the eruption is moist or dry. These terms, while useful clinically, are only relatively distinct, for many catarrhs which are clinically dry are associated with increased moisture of the epidermic cells. In far too many diseases we are as yet ignorant of the actual infectious cause. In others the probable causal relation of some germ to the disease is widely admitted, while there are others which it is only by analogy that we can consider infectious at all. It is not necessary that the cause of a disease shall be present at the actual place where signs of irritation are observed microscopically. Parasites of all kinds have the power of exerting their influence at a distance, and be the parasite gross, as in the case of scabies, or minute as in the case of impetigo, the effects produced by its presence may be found in localities remote from where the actual parasite can be detected. This is what is called chemiotaxis, the poison produced attracting the mobile elements of the tissues. Thus, in certain pustular affections of the skin which are clearly inoculable, the cause of the disease will be found in a small colony of germs situated only at the apex of a considerable pustule, while the vessels for some distance around show evident signs of disturbance.

SCABIES.

This is the most typical of the moist superficial inflammations (Plate VI). The lesions which are produced are vesicles, which may rupture and discharge fluid, or may develop into pustules or even large bullæ. If the irritation be kept up, the skin becomes greatly thickened and fissures are developed. To this severe form the term Norwegian scabies has been applied.

One advantage of placing this disease at the commencement of the list is that the nature of the processes occurring in the others may be deduced from its well-known phenomena. The *Acarus scabiei*, which is the cause of the disease, is a

small insect just visible to the naked eye, about the size of the perforation of a fine sewing needle. I have followed the majority in giving an illustration of the acarus, by means of

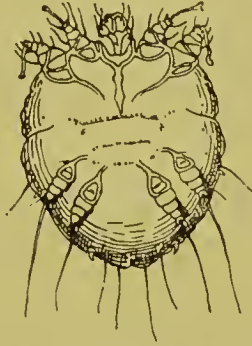


Fig. 9. *Acarus scabiei*. Female, ventral surface $\times 50$

which the exact number of its legs may be seen. Such details are no doubt very interesting to the zoologist, but are of little importance to the practical physician. All that is necessary is to know that the actual disease is produced by



Fig. 10. Section from a case of Norwegian scabies (diagrammatic). Shows position of the itch mite, the eggs in the oblique burrow, and in other parts of the horny layer; sections of acari and faecal masses (the black granules). There is some cellular infiltration of the tissues beneath.

the female which, after impregnation, excavates oblique tunnels in the horny layer of the skin (not in the prickly layer) and lays her eggs as she advances. The irritation

produced gives rise to the itching and also to the exudation of a certain amount of fluid, clinically evident as the vesicle, in the neighbourhood of which the acarus may frequently be found. The tunnel which the insect excavates is observable on the skin of those whose attention to cleanliness is not great, as a black line, often, though by no means invariably, zig-zag. The favourite seats for its ravages are the thin skin on the webs of the fingers (Plate VI), the anterior borders of the axillæ, the genitals in males, and the areolæ of the nipple in females. Its general distribution is determined by the patient. The disease is found most marked in those parts which he can most easily reach to scratch. Thus it is only exceptionally found on the back, while the lesions are usually numerous on the abdomen. One important point in its distribution is that the face is very rarely indeed affected, and this is often a valuable assistance in diagnosis in the case of a wide-spread, itching eruption where none of the burrows can be made out. The distribution just mentioned refers rather to the disease as seen in the class of patients who attend hospitals and dispensaries. In the better classes where the hands are more frequently washed the anterior axillary borders are often the only sites of any evident lesion, while in children the feet are very often as much affected as the hands, and in this disease, as in most diseases in children, the tendency for the vesicles to become pustular is very marked. In this connexion it is well to bear in mind that, while the statement made above that the face is practically never affected is, regarding scabies, strictly true, yet when the disease becomes complicated by impetigo there is nothing to prevent that disease from appearing on the face, and it frequently does so. The patient's great complaint is itching, which is most troublesome at night. The removal of the clothes before the patient gets into bed seems to be to the acari an intimation that the time for their nightly prowling has arrived. To one whose opportunities of seeing the disease have been considerable, the disease is usually easy to diagnose, but the statement made by some that it is always possible to trace the acarus to its lair does not accord with my own experience, and the diagnosis has often enough to be made simply from the account of the itching (most marked at night), the duration of the disease, and the distribution of the eruption.

In the majority of cases no doubt it is not difficult, and in some cases it is most important that one should be able to convince the enraged and sceptical patient by demonstrating

PLATE VI.



SCABIES.

to him under the microscope the cause of his disease. For this purpose a typical burrow with a fresh vesicle at the end is selected, and a fine needle is passed along it in the direction of the vesicle. By raising the needle the whole tunnel is opened up, and the acarus may quite frequently be discovered clinging to the end of the needle.

Left to itself, the disease leads to great thickening of the horny layer and develops into the so-called Norwegian scabies, in which country this neglected form seems to be most frequent.

TREATMENT.—In this respect also scabies is an excellent introduction to the infectious inflammations of the skin. Knowing that the disease is produced by a definite cause, our object is to destroy it, and having removed the cause to allow the patient to recover. Were we as familiar with the cause of all infectious inflammations, and had we as sure a remedy for their destruction as we have in this case in sulphur, the treatment of the diseases of the skin would be very much simplified. The method of curing scabies which is followed in Paris and in some of the London hospitals is on the “while-you-wait” system. The patient is immersed in a bath containing sulphide of potass $\bar{\text{z}}$ ijj to 30 gallons of water. After soaking for some time in the bath he is thoroughly scrubbed with soft soap and a strong nail brush, special attention being devoted to the more affected parts. After this he reclines for a further period in the sulphur bath. After coming out of it he is rough-dried, rubbed with sulphur ointment, and dismissed cured. Perhaps a more widely followed method is that the patient shall have a daily soaking in a bath, and have sulphur ointment rubbed in twice daily for three days. Various modifications of sulphur ointment are applied in different neighbourhoods, but the sulphur is always the essence of hospital treatment. It is important to bear in mind that sulphur itself is able to produce a considerable irritation and inflammation of the skin, and patients should be definitely instructed not to continue its application on their own discretion, but only for the number of days the physician has ordered. Three days usually suffice; any itching which is still present at the end of that period is due to the sulphur and will disappear when the application is stopped. If a patient, on his own initiative, continues to apply and re-apply the sulphur his last state will be very much worse than his first. A modification of this method which is often useful, and which is certainly more cleanly than the sulphur ointment

method, is the use of a sulphur soap. The patient has a prolonged soaking in a warm bath, and on coming out is lathered freely with sulphur soap. This is well rubbed in, and a couple of baths and four latherings very often suffice for a cure.

There are two classes of patients at least who need to be specially considered in treatment. In children the irritation is usually severe, and pustulation is a very prominent feature. In them the sulphur ointment, if applied, must be diluted, and if there are many so-called "eczematous" complications, the substitution for sulphur of Kaposi's β -naphthol ointment, 40 grs. to the oz., has the advantage that it calms these complications instead of aggravating them like sulphur. In the case of adults where the eczematous complications are very marked the same plan might quite well be followed, always bearing in mind that, harmless though β -naphthol usually is, cases of poisoning have resulted from its excessive use. Another class is formed by those whom one does not wish to inform that they are suffering from such a vulgar disease as itch. If this fact must be concealed, sulphur ointment must be avoided, for it practically carries its diagnosis with it. Useful substitutes for it are stavesacre, styrax, and balsam of Peru. This latter has recently been lauded as the most cleanly and pleasant way of curing the disease, and the vapour of balsam of Peru is said to be six times as destructive to the acarus as that of sulphur.

Perhaps better than simple sulphur ointment is an application in which certain adjuvants are present, namely, prepared chalk, which aids mechanically in the opening up of the burrows, and soft soap, which helps the penetration of the sulphur along them. Useful formulæ are:—

R̄	Sulphur Præcip.	ʒij
	Cretæ Præp.	ʒiij
	Saponis mollis et Vaselini	āā ʒj
R̄	Sulph. Præcip.	
	Ol. Fagi	āā ʒss
	Saponis Viridis	
	Adipis	āā ʒj
	Cretæ Præp.	ʒj
	(Wilkinson's Ointment.)	
R̄	Styracis	
	Ol. Olivæ	āā ʒij
R̄	Bals. Peru	
	Sp. Vini	āā ʒj
	Sig. To be painted on with a brush.	

CHEIROPOMPHOLYX (Pompholyx; Dysidrosis).

(χείρ—the hand; πομφόλυξ—a bubble; δύς—difficult;
ιδρώς—the sweat.)

This is one of the affections which were excavated by Tilbury Fox from the rubbish heap of eczema. As the name signifies, it consists in an eruption of small vesicles upon the hands, more rarely also on the feet. It is almost invariably symmetrical, and appears with a certain amount of burning and itching. The small vesicles are embedded in the skin, projecting very little above it. They are especially distributed along the borders of the fingers, and have a peculiar, greyish, translucent appearance which is very aptly compared to boiled sago grains (see Plate VII). After a few days' existence the vesicles dry up and are gradually thrown off with the exfoliating skin. Naturally, they do not rupture, but accidentally they sometimes do. The disease is found most frequently in those whose hands sweat freely, and it is especially common in young women, although not restricted to any age or sex. When an attack has made its appearance the patient is very liable to recurrence on any slight disturbance of health. It is, indeed, related of one of the investigators of the disease, himself a sufferer, that, running short of material, he spent an evening with some riotous students in a German beer garden, and was rewarded by what he desired—the appearance of a fresh eruption.

Although the description already given applies to the great majority of cases, there are others where the disease spreads further than the fingers, on to the hand, and even up the arm. The vesicles in that case are larger, and the skin being thinner, they quite commonly rupture and exude a little fluid. The fact that they do not rupture on the fingers is not due so much to any special peculiarity of the vesicle as to the character of the skin in the situation in which they develop. When eczema develops on the palm of the hand, there are very rarely any vesicles visible at all. The fluid spreads itself through the layers of the skin, and the result is the scaling of large masses. On the back of the hand, on the contrary, the vesicles very rapidly form and as readily rupture; the skin at the sides of the fingers being intermediate between these two prevents to some extent the development of the vesicles and usually also their rupture.

ETIOLOGY.—As in many diseases of the skin, there are two

views held as to the nature of Cheiropompholyx, one side holding that the disease is neurotic in origin and pointing out its occurrence in hysterical females, the other regarding it as a disease of local origin, in all probability due to micro-organisms. While it is not possible to decide between disputing authorities, it would appear that hysteria and neuroses do not exclude the possibility of infectious agents, and that in all probability the infective theory is the correct one. Unna has described in connexion with it a bacillus which he has found in all the cases he has investigated. It grows in the upper cover of the vesicle, just where, in carefully prepared sections, a minute funnel-shaped opening may usually be found.

From the histological standpoint also there are two theories with regard to the nature of the lesion. The name dysidrosis was given to it by Fox, since he considered it to be due to some obstruction in the sweat pores and an accumulation of sweat. In this he was supported by Crocker, who published drawings showing a vesicle directly in the course of a sweat duct. The other and almost certainly correct view is that the vesicles are inflammatory, and that they have no special relation to the sweat ducts. Williams showed that Crocker's drawings were fallacious, by a series of sections, some of which showed the appearance figured by Crocker, but when the series was followed out it was shown that the duct was pressed to one side by the accumulated fluid. It is, however,

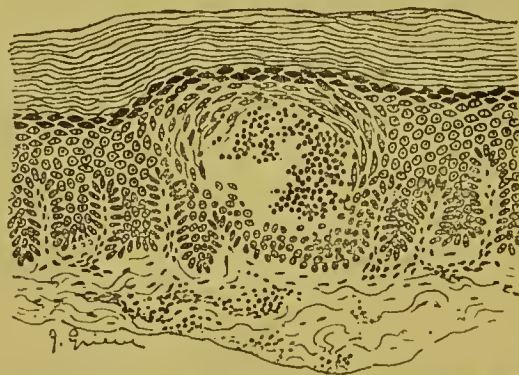


Fig. 11. Vesicle in the prickle layer, the epithelial cells pushed aside, and a few leucocytes in the cavity. From a section by Winklereid William; $\times 50$.

an undoubted fact that those who sweat freely are more liable to the disease, and, according to Unna, this is explained by the fact that the organisms flourish in the sweat. Fig. 11 shows the seat of a vesicle in the epidermis with the thick, horny layer above it.

PLATE VII.



CHEIROPOMPHOLYX.

PROGNOSIS.—As regards any individual attack the prognosis is good, but the tendency to recurrence is so great that a patient should always be warned of its likelihood. Like many other diseases it is said to prefer spring and autumn for its appearance, but as in all those diseases these terms must be considerably expanded if the statement is to hold good.

TREATMENT.—Since there are two theories, there are also two lines of treatment followed. Those who believe in the neurotic origin of the disease largely neglect local treatment and administer tonics to their patients. Under this treatment they undoubtedly recover, as do patients who have no treatment at all. The local treatment which has proved most satisfactory in my hands is frequent bathing in sublimate solution (1 to 4,000) and the application either of a salicylic ointment or a salicylic dusting powder (2 per cent.). When the disease has subsided it is most important that steps should be taken to prevent the recurrence of the disease, and probably the simplest is for the patient to use over a considerable period resorcin or salicylic soap, or a more recently introduced one, formalin soap. If the patient presents any indications for it, of course suitable tonics should be administered.

When the disease has spread to the hands and arms a more soothing treatment, such as simple dusting powder or calamine lotion may be required, for there the disease presents very little difference from an acute vesicular eczema, except that there is not the same tendency for the vesicles once ruptured to continue to discharge.

MILIARIA.

(*Milium—a millet seed.*)

Miliaria is an affection not very distantly related to cheiropompholyx. Like it, it is associated with a tendency to excessive sweating, especially when the sweating takes the form of a sudden, profuse perspiration, but it has no special localisation, and is not so prone to recur as the other disease. It is not, however, the same disease as sudamina, with which it is often confused, but is a true inflammatory disease with the development of vesicles in the prickle layer of the epidermis not unlike those of cheiropompholyx.

The vesicles develop on a tiny red papule, and form a white summit to a red cone. The disease is most common on the trunk, may spread over a large area, and may prepare

the way for a widespread attack of eczema. It is, naturally, most common in the summer months, and is probably identical with many forms of tropical "prickly heat."

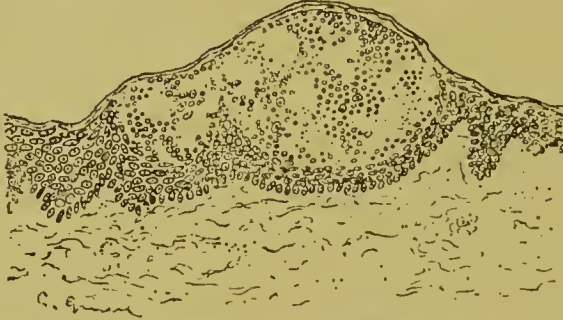


Fig. 12. Miliaria. Section of a double vesicle developed in the prickly layer and evidently inflammatory. Leucocytes and epithelial cells in the cavity. After Unna; $\times 50$.

TREATMENT.—This is simple. A mild antiseptic dusting powder (Ac. salicyl. 3, Talc. 97 parts), or the free application of the lead and tar lotion (p. 98), will soon cause the eruption to disappear.

SUDAMINA, OR CRYSTALLINA.

(*Sudor—the sweat.*)

Although this disease appears in Unna's classification under another heading, it is so often confused with miliaria that probably the distinction will be best explained and understood by considering it here. It is, as Crocker says, simply the result

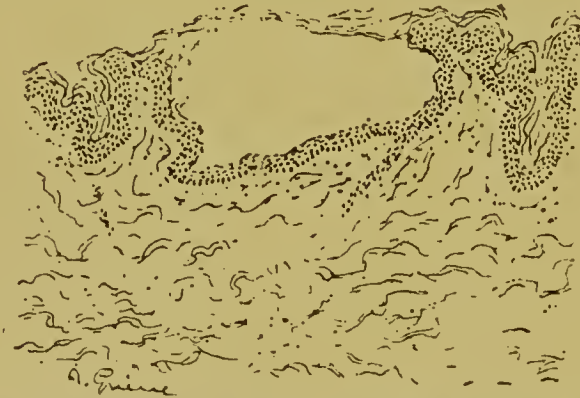


Fig. 13. Shows the vesicle to consist merely of a distension of the horny layer. At the lower right-hand corner of the vesicle is a portion of a sweat duct. After Unna; $\times 50$.

of the sweat being unable to escape, and consequently being dammed up in the pores. The spots only appear when sweating is excessive, and they are most commonly observed in

certain fevers, pneumonia, acute rheumatism, typhoid, measles, etc., where the congestion of the skin favours the blocking of the pores. The result of the damming up of the sweat by a very thin horny layer is a clear, crystal-like vesicle, almost exactly like a drop of clear fluid on the surface of the skin. The nature of the lesion is very well seen in the accompanying illustration (Fig. 13), which is "after" Unna.

The condition is one which requires no treatment. As the horny layer exfoliates the fluid is discharged, and as the fever diminishes so does the tendency to the production of fresh lesions.

IMPETIGO CONTAGIOSA.

(*Impeto—to rush on.*)

The term "impetigo" was used by the older authors in a much wider sense than it now is, and the term Impetiginous Eczema still lingers and is descriptive of the prominence of suppuration and the presence of pus crusts. The term is now practically restricted to one condition, the Impetigo contagiosa described by Tilbury Fox. This is one of the commonest of skin diseases, one of the easiest to diagnose, and one of the simplest to cure. While it occurs at all ages, in all classes, and in both sexes, it is undoubtedly most common in the children of the poor. It is also common in schools where Rugby football is played, the disease being conveyed from one to another in the "mauls," and usually appearing about the ears.

The first outbreak of the eruption is rarely observed, but as it spreads all stages may be observed on one patient, and we then see that the disease commences as a minute, reddish spot, which rapidly becomes a vesicle, and, to speak *more Hibernico*, becomes pustular almost before one has time to observe the vesicular stage. With almost as great rapidity the pustule dries up into a honey-yellow crust, which in a little over twenty-four hours is so loosely adherent to the skin that it appears to have been artificially stuck on. When separated at this stage the skin beneath is merely reddened, but if it is separated before it completely dries, the skin is moist and a little pus may be observed exuding.

There are, undoubtedly, varieties of the disease. That which has just been described is the commonest type, and Unna applies to it the term *Impetigo vulgaris*. In another form the vesicular stage is more prolonged, and the vesicles

reach a greater size before becoming pustular. The whole process is therefore slower, and to this variety Unna gives the name *Impetigo serosa*. In Plate VIII there are, between the eyes and on the eyelids of the boy, vesicles which would come under this category. A third variety is known as *Impetigo circinata*, the disease spreading in rings and somewhat resembling, and often being confused with, ringworm; but the rapidity of the spread, the pustular nature of all the lesions, the absence of the fungus, and the ease with which it is cured, show that it is not that disease.

The condition is very often associated with the presence of pediculi upon the scalp, and the dermatitis which appears on the scalp in that condition is for all practical purposes merely a variety of impetigo contagiosa. (The conditions on the scalp are very different, and the appearances are therefore modified, but when the disease is spread to other parts of the body by the patient's scratching, the lesions developed are practically identical with those of impetigo contagiosa.)

ETIOLOGY.—The disease is undoubtedly due to a micrococcus. The crusts when examined are found to teem with them, and Unna has isolated a staphylococcus which, though resembling in many respects the aureus and albus varieties, yet shows certain differences in growth which are specially noticeable when the inoculated tubes are kept at a moderate temperature. The relationship of these organisms to the disease is easily demonstrated by experimental inoculation.

PROGNOSIS.—Left to itself the disease will go on indefinitely, inoculating and re-inoculating itself on different parts of the body; while deeper infections of the skin, such as boils, are frequent accompaniments of neglected cases. The term neglect must be taken to apply not only to untreated but to improperly treated cases, for often enough treatment has been persistently carried out without effect because directed upon wrong lines.

TREATMENT.—This is very simple. The method invariably followed in the Edinburgh Royal Infirmary, a method so successful that it is unnecessary to recommend any other, is the following: The scabs are removed by boracic starch poulticing, and the part is dressed with ointment consisting of 5 grs. of ammoniated mercury to an ounce of vaseline. It would, naturally enough, seem that more powerful antiseptic



McFarlane & Erskine, Edin^r

IMPETIGO CONTAGIOSA.

ointments would be more rapidly efficacious, but experience shows the contrary. Even an ointment of 10 grs. to the ounce is not so successful as the one I have indicated. The application of too strong an ointment is one of the mistakes often made in treatment; the other common one is the application of the ointment upon the top of the crusts. If the treatment described be followed out, there will be no difficulty in the treatment of impetigo contagiosa.

PEDICULOSIS CAPITIS.

The lesions produced by the presence in the hair of the scalp of the *Pediculus capitis* are very closely related to those of contagious impetigo, and, indeed, that disease often seems to originate in the irritation caused by the parasite. There are certain differences, however, by which the experienced eye can diagnose the presence of the pediculus without seeing either it or its ova.

The crusts are not so discrete as in *Impetigo contagiosa*, they cover continuously considerable areas of the scalp, and there is usually more exudation, more moisture, more eczema than in that disease. Further, at least in almost all cases of any degree of severity, the crusts have a *dirty, greenish colour*, foreign to those of simple impetigo contagiosa, which is practically pathognomonic of pediculosis.

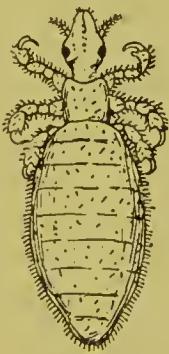


Fig. 14. *Pediculus capitis* × 40.

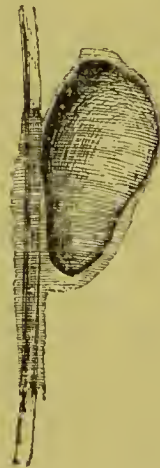


Fig. 15. Ovum of the *Pediculus capitis*, or "nit," attached by a sheath to the hair; × 100.

The disease is commonest in the children of the poor, but as in all parasitic diseases, rank offers no protection. It is almost invariably *limited to the back of the head*. If a line

be drawn from ear to ear across the vertex there will be found very little disease in front of it. Usually the parasite (Fig. 14) is very much in evidence; if not, when the hair is carefully examined the ova are seen clinging to it as shown in Fig. 15.

Very often the irritation in the scalp leads to swelling and breaking down of the glands at the nape of the neck, and considerable abscesses may form.

The old discussion as to whether the pediculi or the "eczema" was the primary disease may be regarded as settled. It is the pediculi which cause the irritation, the cutaneous catarrh, the "eczema."

TREATMENT.—*Causa sublata, tollitur effectus* is not always true, certainly not in many diseases of the skin, but in this one, at least, the proverb holds. The cases where the destruction of the cause is not followed by the rapid disappearance of the disease are very few in number.

Often enough the irritation looks so great that the inexperienced naturally enough hesitate to follow the somewhat heroic treatment which they would at once recommend in milder cases, but in the vast majority of cases the results will be so satisfactory as to give confidence on future occasions.

There are, no doubt, very many applications which are certain death to the pediculus and its ova. The one which is invariably used in the Royal Infirmary is *common paraffin oil*. The patient is directed to anoint the head freely, to cover it with rags soaked in the oil, and to wear over all an oiled silk bathing cap. A second soaking follows twelve hours later, and after twelve more the scalp is thoroughly washed with soap and water. This may at first appear to increase the irritation, but very soon that dies down and the case is cured. The method also removes some of the less firmly adherent "nits" from the hair, but for the rest other means must be used. Probably the old-fashioned tooth comb is the best of all. If the irritation is so great that this method is really inapplicable (although, as has already been indicated, it may be used where there is considerable irritation), an ointment of ammoniated mercury (grs. x- $\bar{3}$ j) may be used for a day or two until it has subsided, when the paraffin method may be had recourse to. With regard to the glands, incisions should only be done when it is *urgently* indicated. When the irritation is removed considerable swellings disappear in a surprisingly rapid manner.

PEDICULOSIS PUBIS.

The *Pediculus pubis*, or crab louse (Fig. 16) differs somewhat from its cousin the *Pediculus capitis*. It has a preference for the stronger hairs, and is found in the genital regions, in the axillæ, and on the eyebrows.

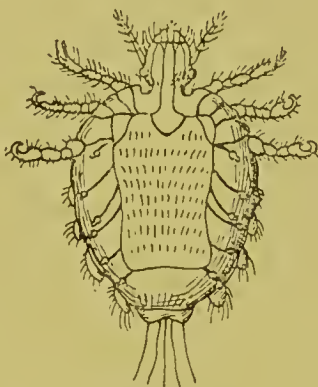


Fig. 16. *Pediculus pubis*; $\times 50$.

On the eyebrows the lesions tend to be impetiginous, but in the other situations the irritation of the parasite gives rise to a drier form of dermatitis.

Itching is the great complaint of patients thus affected, and often enough there is very little to be discovered on inspecting the parts.

Patches of greyish discolouration are sometimes seen on the skin, due to a pigment produced by the insect, reddish deposits of fæcal matter on the hairs are noted by Erasmus Wilson, and the ova are attached to the hairs as on the head.

TREATMENT.—Some form of mercurial ointment is usually prescribed. White precipitate is excellent, red precipitate had the approval of the poet Burns, and ordinary mercurial ointment is the usual chemists' prescription. As in scabies, care should be taken that the disease is not over-treated, and a dermatitis, due to the application, substituted for the disease.

ECTHYMA.

(*ἐκθύμα*—*a pustule*.)

The older authors described several varieties of this disease, but the use of the term has been largely abandoned. It is probably most applicable to an eruption of contagious folliculitis occurring in persons of lowered vitality, usually those

who are "out of work." In them the infective agent, a pyococcus, finds a more favourable soil, and the effects are correspondingly greater. The disease is most common on the legs, and the appearance it presents is of a series of small pustules of a deep yellow colour, surrounded by an angry, infiltrated swelling about the size of a large pea. One or two of the spots may develop into actual boils; probably the difference between ecthyma and furuncle is merely a question of extent of infection.

TREATMENT.—The local treatment consists in the constant application to the part of some mild antiseptic (hydrarg. ammon., gr. v; vaselin., ʒj), but this will be of little value if the *general condition* of the patient is not improved by good food, a sufficiency of vegetables, and iron in the form of some tonic syrup.

ECZEMA.

(ἐκξέω—to boil over.)

Before one can define and describe a disease to others, it is necessary to know exactly wherein it consists oneself, and the difficulties experienced in endeavouring to get from books an idea of Eczema are really due to the fact that there is no agreement as to what this disease is.

The word is almost literally translated by the English one "eruption," a bursting out, or a boiling over, and anyone is clearly within his right in calling almost any disease of the skin an eruption (eczema). The following is the most exact definition which I can suggest. It is not intended to be sarcastic:—

"Eczema is the term commonly applied to any wet or scaly inflammation of the skin, of the cause or nature of which the observer is ignorant."

The eruption may be erythematous, papular, vesicular, or pustular. The surface may be covered with crusts or scales, or may be intensely red and constantly exude fluid. As if these varying forms of eruption were not enough, we have in most cases two or more, or even all of them present at one and the same time.

Exudation of fluid, on which great weight used to be laid, is not always clinically evident; indeed, the most constant symptom is that of itching, which is very generally present, and in some cases is so severe as to be almost maddening.

Further, eruptions fully conforming to any written description of eczema may be produced by a variety of chemical and other irritants, but though some authorities regard such as eczema, it is the general custom in this country to exclude them.

Scabies and certain forms of *tinea corporis* are "eczema," until their cause has been recognised; indeed, Hebra definitely regarded scabies as an eczema. *Impetigo contagiosa* was distinguished from eczema long before we knew its cause, because we knew its nature, while *cheiropompholyx* is distinct from eczema because we know it to run a definite and regular course. I have taken the further step of definitely separating *seborrhœa* from eczema. There is little doubt that in the future, as our knowledge increases, the chaos of eczema will grow less and less.

We have already considered certain of the inflammations of the skin brought about by various irritants which are often classed as eczema (*E. solare*), and it should again be noted that many do not recognise any distinction between that disease and *impetigo contagiosa*, *cheiropompholyx*, and *seborrhœa*, especially the latter.

The matter being in this confused state, it is essential to find some provisional method of arranging the varied inflammations of the skin, of whose course and nature we are ignorant, until a more exact knowledge is arrived at, and that which I propose to follow is suggested by Prof. Duhring in his new text-book. He describes the varieties of eczema as *lesional* and *regional*.

ETIOLOGY.—If it be admitted that the term "eczema" probably includes a variety of diseases, it is very evident that it is impossible to say anything definite as to its cause. Many theories, several of them contradictory, have been put forward, their very multiplicity and contradiction showing how evident it is that we are dealing with a collection of different conditions. In those traumatic inflammations called by many eczema, where we know the cause of the disease, the removal of that cause is rapidly followed by the disappearance of the disease. It is because we do not know the cause that eczema is so difficult to treat. Many observers are inclined to believe in a general way that eczema is probably parasitic. Unna's views will be discussed under *seborrhœa*, and there is no other serious candidate in the field against his *morococcus*, so that until some more definite evidence is sub-

mitted it seems premature to claim that every form of inflammation classed as eczema is parasitic. There is nothing in the inflammation of the skin in eczema which demands that the irritant must be a living germ ; the eruption produced by many chemical irritants so closely resembles it that many refuse to recognise any distinction.

We are, however, familiar with a number of predisposing causes which, at all events, have some influence on the development and duration of an attack. Disorders of digestion or assimilation are very generally believed to have an important bearing on both. Many go too far, and even when no evidence of such disorder can be detected, put their patients on a diet, and order an acid, alkaline or diuretic mixture. If any disorder is present, its cure will undoubtedly hasten the disappearance of the eczema, but the only varieties of the disease where digestive disorders will rarely be enquired for in vain are those in the neighbourhood of the mouth and anus.

Constipation is frequently present, and the proper regulation of the bowels is as desirable in patients with eczema as in all others, for no doubt it predisposes to this disease, as it does to so many other maladies.

Anæmia is undoubtedly a predisposing cause, and it is impossible to overlook the action of the nervous system. The sudden symmetrical outbreak of certain forms, their occurrence at certain periods, *e.g.*, the menopause, and their occasional appearance immediately in relation to some mental or financial emotion, make it impossible to deny to the nervous system an important etiological significance in eczema. Actual changes in the structure of the nerves have been noted by a few favoured observers, but as they have been repeatedly sought for by competent histologists in vain, the claim that all eczema is dependent on nerve disturbance is clearly excessive.

Eczema often develops without any premonitory symptoms, but there may be some malaise and a feeling of local heat before the actual appearance of the eruption. It may appear primarily in almost any of the lesional varieties, or it may develop into any of these through some previous one. Thus an eczema may be vesicular at its first appearance, or erythema and papules may precede the vesicles. It may occur in those who are manifestly below par, or its subjects may be in the rudest health.

DIAGNOSIS.—One is justified in diagnosing as eczema any acute or chronic catarrhal inflammation of the skin of which he does not know the nature or cause.

The greater one's experience, the more diseases can one differentiate from eczema, and the fewer remain to be so-called.

PROGNOSIS.—Every case of eczema can be cured. The time required may be long, and a trial of many remedies be needed, but if the treatment be carried out on sound principles, the ultimate result is always satisfactory.

HISTOPATHOLOGY.—A knowledge of this is of great value in the comprehension of the different varieties and of their relationship to one another.

In giving a brief *résumé* of Unna's observations, many of which I have confirmed, it is only right to point out that he very nearly goes the length of claiming all eczemas as seborrhœic. I am not, however, prepared to follow him so far. There are cases which I admit as eczema in which I recognise no seborrhœic element. The histological differences are apparently so slight that, paradoxical as it may seem, one description may suffice for both, especially when it is borne in mind that what is seborrhœic dermatitis to Unna is eczema to the majority of observers.

In the epithelium three main changes are observed, on the predominance of one or other of which the lesional variety of the eczema depends.

The most important of these is **Parakeratosis**, or irregular cornification, which is found marked in every variety of eczema. It is essentially a parenchymatous œdema, an intracellular œdema, a condition of excessive moisture of the epithelial cells. Instead of going through the regular process of cornification, with the deposition of keratohyalin granules and the conversion into dry anuclear horny cells, the prickle cells remain moist in their interiors, and though they undergo a sort of mechanical drying process externally, they preserve their nuclei right up to the surface. Being moister, they are naturally more adherent, and are cast off in masses as scales instead of, as normally, insensibly. This factor predominates in the scaly eczemas.

The second change is **Acanthosis** (ἀκανθα — a spur, prickle), and consists in a multiplication of the prickle cells. Mitoses are much more numerous and more widespread than normal, and the result is a thickening of the epithelial layer and often

also of the ridges (so-called interpapillary processes). It is most marked in some papular forms of the disease.

The third characteristic is due to an extension of the same cause which produces the first, viz., an excess of moisture. The fluid is not only in, but between, the cells; they are separated from one another, and if the fluid be present in sufficient amount, a vesicle is evident clinically. Unna calls this **Spongy metamorphosis**. Some degree of this is always



Fig. 17. Eczema. The scaly spot, *P*, shows parakeratosis: at *V* a vesicle has formed in the prickly layer, whose cells show irregular cornification (parakeratosis) and proliferation (acanthosis). Deep changes are shown by the infiltration around the vessels' × 50

present. The older writers who held by the view that eczema was always a moist disease, have unsuspectingly proved to be verbally correct. The more marked it is, the more evidently does the eczema show the vesicular character.

There are also changes in the deeper tissue, which give character to certain varieties of the disease. Dilatation of the vessels is very prominent when the eczema is erythematous, exudation from them when œdematous, and actual proliferation of the connective tissue is found in certain chronic infiltrated conditions.

With all these different phenomena present in varying degree, now one, now another, now a combination of two predominating, it is abundantly evident that the clinical pictures presented are almost kaleidoscopic in their characters.

Before entering on the description of the several varieties

of the disease, it will be well to consider those general rules of treatment which are more or less applicable to all its forms.

GENERAL TREATMENT OF ECZEMA.

Eczema is so varied in its forms, and its effects on different parts of the body are so unlike, that it is beyond possibility to indicate any definite line of treatment for the disease as a whole. Certain broad principles may, however, be laid down, though the most steadfast of these are but of a negative character.

First and foremost, the idea must be thoroughly grasped that there is no specific for eczema, there is no medicine which, administered internally or applied externally, can be confidently expected to cure the disease.

The drugs against which the previous sentence is mainly directed are arsenic, and zinc ointment, regarding which a far too wide tradition still remains that they, and practically they only, are *the* treatment for all kinds and varieties of the disease. Of recent years ichthyol has somewhat invaded their preserves, and is largely ordered in the same haphazard method.

Zinc ointment is in most cases at least harmless, and both it and arsenic have their uses in suitable cases ; but arsenic is very far from harmless ; indeed, it is hardly too much to say that its invariable administration in all forms of eczema is calculated to do more harm than good. The only cases in which it is useful are the exceedingly dry, chronic scaly eczemas ; here its prolonged administration may be followed by some improvement. Wherever vesicles are present, or even in their absence where the skin is inflamed and œdematous, it is almost certain to aggravate the condition, and will practically never do any good. Its value in psoriasis, which I regard with Unna as the extreme dry type of seborrhœic eczema, is undeniable, and will be described under the treatment of that disease. Antimonial wine in small and repeated doses is sometimes useful when the skin is greatly inflamed. Salicylate of soda is of some value in acute cases, but the internal treatment of eczema as eczema is of very minor importance ; if other complicating disorders are present, they are to be treated *secundum artem*.

External treatment consists in soothing the inflamed cases, stimulating the chronic ones, and where there is reason to

suppose that parasitic agents are present, in applying suitable antiseptics. Our treatment is plainly symptomatic; we endeavour to ease itching, to soak up discharge, to supply deficient fat, to diminish hyperæmia, in short to put the skin at rest, so as to allow nature to perform the cure. The details of local treatment will be referred to in connexion with the lesional and regional varieties.

The questions of *diet, drink, water, climate*, etc., all demand consideration.

Diet was for a time to all, and still is to many, all-important in the treatment of eczema, and old eczema patients can show pages filled with the most elaborate and careful directions in regard to it.

Common rumour incorrectly attributes to the German school an utter disregard of what goes into the body. Certainly the German diet differs very remarkably from the British, and the *menu* of a dinner even in a skin clinic in Germany is enough to make our dermatological ancestors turn in their graves. Pork, uncooked smoked fish, raw ham, and mixtures of jam and potatoes are not the sort of diet they ordered to their patients. Yet the cases do well; they recover as quickly as elsewhere, and when they go back to the world do not require special consideration in the domestic circle.

The articles of diet which are bad for eczema are *those which produce any increased flow of blood to the skin*, and a consequent increase of itching which leads to scratching, and the initiation by this means of a *circulus vitiosus*. What these articles are must be found out by each patient for himself and eliminated from his dietary. "What is one man's meat is another man's poison." Still one has knowledge of certain things which are harmful in the great majority of cases. Curries, pickles, and all spices should be avoided. Most people are familiar with the conscious heating of the skin which follows the taking of, for example, chutnee.

Porridge is an article of diet regarded by many as undesirable for eczematous patients. Cooked as it too often is in England, it is undoubtedly as bad for eczematous patients as it is unpalatable to healthy people, but if the meal be thoroughly boiled, any little harm which the irritation of the particles of husk may do is more than compensated by its value as a light and nutritious food. Probably, re-cooked

foods are undesirable, and where expense is of no consideration it is well to avoid them.

It is superfluous here to present a list of diets for dyspeptics who may also be sufferers from eczema. It is likely enough that their eczema is aggravated, and almost certain that it is prevented from complete cure by the dyspepsia, but that must be treated as a disease of the stomach and not of the skin. The very careful search for some symptoms of indigestion to account for every eczema is occasionally successful in developing the notion of dyspepsia in a previously healthy patient. In acute inflammation of the skin, if the temperature is raised (though this very rarely happens), the diet should be suited to the febrile condition, and even if there is no fever, when the eruption is acute the diet should be light.

Drink.—With regard to drink the most important question, of course, is that of alcohol, and seeing that alcohol possesses in a very eminent degree that power of stimulating the cutaneous circulation which has already been referred to, and which in its turn increases the itching, it is evidently desirable that alcohol should be avoided altogether. Many cases are delayed, if not prevented, from healing by even the moderate use of alcohol, an observation which can readily be confirmed by cutting it off. All eczemas are not equally injured by it, though in none does it act favourably; the papular and moist red eczemas are most unfavourably influenced, the dry, scaly forms least. With reference to the form of alcohol which should be taken if its use be unavoidable, the selection depends more on the general condition than on the disease of the skin. So far as the skin is concerned it is the alcohol which does harm, not those varying other constituents which make up beer, whisky, claret, sherry, etc.

As regards tea I cannot altogether agree with those who attribute such a power of evil to "the cup that cheers." Too much tea is bad for everyone, badly made tea is equally so, but well made tea in moderation does no more harm to persons suffering from cutaneous diseases than it does to healthy people. If drunk in quantities and *too hot* it has the same bad effect in flushing the skin as have alcohol and spices. Coffee has the reputation of sometimes increasing itching, in which case it should be avoided, while cocoa, except when too hot, is harmless.

Mineral waters which contain a small amount of some indifferent alkaline salt are probably innocent enough, but

the custom of drinking large quantities of strongly alkaline water is sometimes followed by complete upsetting of the digestion. The medicated waters, such as Levico, are hardly to be looked upon as drinks but rather as medicines.

Water.—A patient will sometimes relate with an air of pride on exhibiting an eczematous leg that it has not had water near it for two months. The limb usually bears all the marks of this, and the example is quoted since it illustrates a very common tendency and practice. The effect of water is, however, not altogether bad, and a good deal of its evil repute is owing to the fact that many waters contain ingredients which are irritating to any skin, and particularly so to the eczematous one. It is well known in one of our border towns that the eczema of the hands, which is exceedingly common there, will disappear of itself when rain-water is used instead of the town supply. Still the fact remains that even rain or distilled water, if used too frequently and if the parts are not sufficiently dried, to some extent aggravates the disease. The water question really depends on its proper use, and it must surely be that the little irritation caused by washing a limb is more than compensated by the removal of the accumulated secretions, excretions and organisms. After the use of water the denuded epidermis tends to dry and crack, and it is therefore essential that after washing the skin shall have restored to it artificially some of the natural lubricant which has been removed by the water. The fact that water enters into the composition of many of the applications for the skin (lotions, starch poultices, and cold cream) surely shows that it of itself is not so terribly injurious.

Matters are different when there is added to the water its usual accompaniment, namely, soap. What has been recently written regarding soap in the advertising columns of medical and lay journals shows amply how much importance is attributed to this. The prevailing opinion being that it is to the alkali that any evil effects are due, soaps are advertised to an innocent public as neutral or over-fatty, while one enterprising firm advertises that its soap contains *no alkali at all*. Some time ago I tested a very large number of soaps and found that, without exception, all showed evidence of the presence of some free alkali. Even if a soap were entirely innocent of free alkali, the moment water is brought into contact with it a certain amount of alkali is set

free. It is only this free alkali which combining with the greasy matters in the skin gives soap its cleansing properties. Probably quite as much harm is done to the skin by the use of *impure fats* in the manufacture as by the presence of the alkali. The soaps sold by the various medicated soap firms can usually be depended upon as being made from the best and purest materials. In the case of eczema, soap should be used only when absolutely necessary. A handful of oatmeal will aid in cleansing the hands, and will at the same time to some extent soften the water. After the use of soap the necessity of supplying to the skin its lost lubricant is, of course, greater.

Climate.—It is no very difficult matter to lay down rules with regard to climate in eczema. With one exception, all cases of eczema are aggravated by residence on the north and east coasts, where the particles of brine conveyed by the wind have a constantly irritating effect on the disease. The exception is in cases of what one hardly likes to call strumous eczema, but of eczema occurring in tubercular subjects, in whom the benefit to the general health is often so great that the increasing strength of the patient suffices to throw off the eczema in spite of the evil influence of the brine. The other coasts, if their prevailing winds are off the sea, are also injurious, but the milder winds which are supposed to come from the south and west are usually less brine-laden than those from the other directions.

Zones of latitude have little effect on chronic skin diseases. In tropical regions the activity of the sweat glands commonly tends to aggravate the moister forms of the disease. Of the drier forms some seem to be benefited while others are aggravated, and little of a trustworthy prognostication of the effect of climate on any given case is possible.

Occupation.—This, of course, has a great bearing on many cases. Most of the "occupation" eczemas, however, come under the category of the traumatic inflammations, for they are begun, continued and aggravated by the continued application of the irritant.

Exercise.—Sufficient of this to keep the whole system in good order is, of course, most desirable. Generally speaking, however, it is best that patients with eczema should not take any violent exercise which promotes perspiration, for the heating of the skin tends to aggravate an existing eruption.

At the present day one can hardly pass this subject without alluding to the effects of cycling. Cases have come under my notice where undoubtedly evil effects have resulted. Saddle soreness, of course, is a traumatic inflammation, but the process often becomes complicated by purulent infection, and in such cases cycling should be stopped till *all traces* of irritation are gone. With regard to the use of the bicycle in more extensive and chronic disease it would appear as though, if the exercise be carefully regulated so that the rider gradually gets into condition and is not during his rides in a constant perspiration, its effect may even be beneficial.

LESIONAL VARIETIES.

The lesional varieties are practically the various stages of eczema of the older writers, but since every case does not go through all the stages, the new term is a distinct improvement.

The eruption of eczema is usually multiform. The terms used to describe the lesional varieties refer to the prevailing character of the eruption, and do not exclude the possibility that a few papules and vesicles may be present, for instance, in erythematous eczema, or that in the papular form a patch may be infiltrated, weeping or fissured.

Erythematous Eczema.—The skin is reddened and swollen, where the subcutaneous tissues are loose (*e.g.*, eyelids, scrotum) intensely so, and the patient complains much of a burning sensation. It is most common on the face, and is not infrequently mistaken for erysipelas. From that disease it should be distinguished: (1,) By its less brawny hardness; (2,) By its less abrupt border; (3,) By the absence of bullæ, and, (4,) By the very slight rise of temperature. In the diagnosis of a doubtful case *all* these differences must be taken into account. Thus a bulla may be accidentally present, but if the infiltration be slight, the border not abrupt, and the temperature normal, its occurrence may be ignored. This disease usually terminates in scaling. If it occur at any of the contact regions, it tends to become moist. As a rule acute, it occasionally assumes a chronic course, and if not completely cured relapses are very apt to occur.

TREATMENT.—Greasy applications should, as a rule, be avoided. In slight cases linimentum exsiccans or gelanthum

(page 17) is generally useful ; some prefer lotions containing bland powders, *e.g.*—

R̄ Ac. Borici	℥j
Calaminæ	℥iij
Zinci Oxidi	℥ij
Glycerini	℥ij
Aquæ ad	℥vj

or simple dusting powders, such as carbonate of magnesia, starch, or talc suffice.

Œdematous Eczema.—This variety is rarely if ever seen alone. It may complicate the erythematous variety, but the term is most applicable to a form which occurs in patches, particularly on the upper arm and trunk, where a little area of skin about the size of a sixpence is raised by the exudation of serum above the surrounding level, and the fluid here and there reaches the surface in little drops, which usually rapidly coagulate to form tiny fibrinous crusts.

Such forms sometimes resemble mild cases of dermatitis herpetiformis. That disease is usually associated with much more itching, and the appearance of repeated crops of patches generally enables the diagnosis to be made. The superficial changes in this form are comparatively slight: the main factor is the exudation into the deeper tissues of fluid, some of which makes its way to the surface.

TREATMENT.—The avoidance of grease is even more important in this than in the erythematous variety, and dusting powders or lotions similar to those recommended for that form are the best remedies.

Papular Eczema.—Two varieties of this must be distinguished. We have first the acute inflammatory papule, which is merely a stage in the development of the vesicle, and the chronic papule, which is due to epithelial growth (acanthosis). The acute form is found most frequently on the flexor surfaces of both arms and the back of the neck, appears suddenly, and is accompanied by much burning and itching. It does not necessarily go on to the development of vesicles, but may be arrested at the papular stage by appropriate treatment. The more chronic form is especially apt to occur on the limbs. The papules may be flattened or acuminate, their colour varies from a pale pink to a deep red, and their distribution is irregular. Often from scratching, their apices are surmounted by a hæmorrhagic crust, and here and there more or less fully formed vesicles may be

seen. Itching is always a prominent feature. The formation of the papules is due to the prominence of acanthosis; there is excessive proliferation of the epithelial cells. It is probably the most difficult form of eczema to cure.

The disease which it most resembles is lichen planus. Indeed, this variety of eczema was long known as lichen simplex. The shape, colour, and distribution of the papules do not correspond with those of lichen (*q.v.*), and the presence here and there of vesicles usually makes the diagnosis a matter of no great difficulty.

TREATMENT.—As already stated, this is the most difficult form of eczema to treat. Ointments, if employed, should be used with great caution, and applied at first only to small areas. Lassar's paste, with 10 grains of salicylic acid to the ounce, is sometimes useful. The proportion of salicylic acid may be gradually increased. Tar is another useful remedy, and is best applied in a lotion :—

℞ Liq. Carb. Deterg.	
Liq. Plumbi Subacetat.	āā ʒij
Zinci Oxidi	
Glycerini	āā ʒss
Aquæ ad	ʒvj

Black wash is an old favourite application. If the itching is very severe, zinc gelatin usually gives relief.

It is important that the general health be carefully enquired into, and any disorder rectified, though not much is to be hoped in this form from direct internal treatment. Arsenic in particular should be avoided, as it sometimes converts papular into vesicular eczema.

Vesicular Eczema.—Acute vesicular eczema is not a common disease. It develops rapidly, and its general characters suggest the action of some unknown irritant. At first the skin is swollen and red, then the surface becomes dotted with papules, all of which are soon surmounted by vesicles. These rupture, and fluid continues to exude from the broken surface. In the really acute forms the exudation soon dries up, and the process is rapidly terminated, but if the irritation is continued, fresh crops come out, the exudation coagulates on the surface and forms fibrinous crusts, the presence of which further aggravates the condition. These crusts may be contaminated by organisms, and the exudation become purulent. These form the *purulent* and *crusted varieties* of the disease. If the discharge is very profuse, the crusts are

washed off by it, and there develops the variety known as *eczema madidans* (Latin root, "madeo," wet, or over-flowing). In some cases, possibly owing to the nature of the irritant, the blood-vessels dilate more than usual, the part looks intensely red, and the term *eczema rubrum* is applied.

Another form of vesicular eczema occurs where a considerable area of skin is inflamed, and where small amounts of fluid make their way to the surface here and there from the deeper parts. These little drops of fluid coagulate almost immediately on reaching the surface, and so the vesicular character is more apparent than real.

TREATMENT.—Acute vesicular eczema is best treated by the application of lotions or powders. It is an advantage that the powders should be mildly antiseptic, and boric acid, or 2 per cent. salicylic acid in talc, are among the most suitable. Black wash is a useful application, and though the modern tendency is to forbid the application of any impervious covering, it is remarkable to note how the older authorities favoured the application of weak alkaline dressings, covered by oiled silk. The starch poultice is another remedy suited to this variety (see page 15). If the weeping continues, care must be taken that the discharge does not accumulate on the surface, and by its presence give rise to further irritation. As a rule it is desirable to intermit at intervals the use of lotions or powders. An occasional starch poultice, or the application of strips of lint soaked in oil to remove the crusts, is generally requisite. As the discharge lessens, Lassar's paste may be applied, or a still more simple one composed of equal parts of carbonate of magnesia and vaseline. As pointed out in the section on general treatment, pastes do not dam up the excretions so much as ointments. They should, however, only be applied when the discharge has practically ceased, in order to promote the healthy cornification of the surface, and to hasten the removal of inflammatory products from the corium. If the crusts are partly purulent, the importance of an antiseptic addition to the application is all the greater. In that stage to which the term "*eczema madidans*" is applied, where drops of fluid are exuding freely all over the surface, astringent lotions are most suitable. Black wash or a weak solution of the acetate of lead should be applied on lint. The excessive moisture is accompanied by a marked porosity of the epithelium, and apparently in this and in the "*rubrum*"

variety the continuous application of ointments is not contra-indicated, indeed is often beneficial. Hebra's ointment (equal parts of lead plaster and vaseline) may be applied spread on strips of cloth, and changed twice daily.

Pustular Eczema.—It is of course understood that *Impetigo contagiosa* is no longer referred to under this term. True pustular eczema is, comparatively speaking, rare. The discharge is usually markedly serous, and probably when pustules are present it indicates the presence of some pyogenic organism. Some cases which would correspond to the term pustular eczema are really ringworm. In doubtful cases parasites should be sought for.

TREATMENT in this form is directed against the most important characteristic, the pustulation, and the continuous application either of weak antiseptic lotions or ointments is desirable. Weak boric lotion, or hydrarg. ammon. (grs. v, vaseline $\bar{3}$ j), should be kept constantly applied to the part.

Scaly Eczema.—It is very rare for eczema to take this form primarily. It is usually the last stage of some other variety, erythematous, papular, or vesicular. It may be found on any part of the body, but is perhaps most common on the legs. In it parakeratosis is the prominent feature, the epithelial cells are unhealthy, are not going through their proper metamorphosis, adhere together, and form scales.

TREATMENT.—Ointments are the best application. They should be well rubbed in, so as to soften and remove the scales, and cloths spread with them should be applied to the part. The most suitable drugs are tar and salicylic acid; the proportion should at first be small, and be gradually increased as requisite. A very successful application in cases of this sort on the legs of old people is equal parts of oil of cade and cod-liver oil. As the disease gets better, the proportion of tar may be increased, and by the time the cod-liver oil has disappeared from the prescription, the leg is usually well. In these chronic cases there is invariably a good deal of thickening of the deeper tissues. Treatment must be continued until this has entirely disappeared, otherwise relapse is inevitable. In very obstinate chronic infiltrated eczema, the heroic method of treatment first recommended by Hebra is often of great value. A pledget of wool is dipped in a solution of caustic potash (1-4), and the part is scrubbed with this. The potash dissolves the epidermic cells, in a few minutes large drops of exudation cover the surface, and

severe pain is experienced. The part is then bathed with warm water for some minutes, after which strips of cloth, spread with equal parts of lead plaster and vaseline, are carefully applied. This method should be very cautiously used until experience in handling it is gained, after which it will be found a most valuable weapon in obstinate cases.

If there is much thickening of the corium, and the eczema occurs on parts exposed much to movement, fissures are prone to occur. This is most frequent on the hands, or about the knees and elbows. The fissure is a secondary change, but such cases are sometimes known as *Eczema rimosum*.

REGIONAL VARIETIES.

In discussing these it is impossible to avoid frequent references to seborrhœa, and that section should be compared with this.

Scalp.—Eczema on the scalp is almost always seborrhœic, and treatment applicable to that condition will probably prove successful. The complication of ringworm known as kerion is sometimes mistaken for eczema. The areas affected by that disease are regularly or irregularly round, and are usually covered by purulent crusts. On removing these a purulent fluid may be seen exuding or can be easily expressed from the mouths of the follicles, and the hairs can be removed with a minimum of force, while in eczema considerable force is required for their removal. The fungus is usually easily found on microscopic examination, but it is necessary to examine a number of hairs, for healthy as well as diseased hairs are thrown off by the inflammatory process of kerion.

Ear.—The back of the ear is a very common seat of an inflammation, usually seborrhœic in nature. The part is red, and covered here and there with crusts. Very often, owing to accidental movements, fissures develop at the angle between the scalp and the ear. The main obstacle to treatment in this situation is the difficulty of application, or rather of keeping the application in contact with the diseased surface. This is overcome by the use of zinc ichthyol, or any other form of suitable salve muslin. If these are not available, an ointment or paste should be spread upon strips of cloth, and carefully applied to the two inflamed surfaces. Lassar's paste suits most cases in this situation.

The meatus auditorius is often attacked by eczema. Sometimes this is secondary to a catarrh of the middle ear, and is directly set up by the discharge: sometimes it may be found with a sound tympanic membrane. The parts must be kept scrupulously clean, and the meatus washed out repeatedly with weak antiseptic solutions. If due to discharge from the middle ear, treatment must be directed towards that condition. If the disease is confined to the skin, it is necessary to get one's applications to reach the disease. It is difficult to introduce ointments sufficiently deeply, and one of the best means of treating such cases is by a weak solution of resorcin, or salicylic acid (1-4 per cent.) in equal parts of spirit and water. This dropped into the ear at intervals is usually efficacious. Strong solutions of nitrate of silver (℞ Arg. nit. gr. x, Spt. æth. nitrosi ʒj) may be painted on, and chloride of zinc (gr. x to ʒj) is often useful. It is most important that in such cases the ear be thoroughly examined, in order that the presence of polypi, foreign bodies or other disease, should not be overlooked.

The lobe of the ear is very often the seat of lupus erythematosus, under which heading the differential diagnosis is dealt with.

Face.—The face is probably the commonest seat of the erythematous form of eczema (page 96). Large areas of skin are attacked, but there is very often a narrow band of unaffected skin between the disease and the hair on the forehead. Most commonly acute, it occasionally, especially in elderly people, takes a chronic form, the true skin is thickened, and the natural lines and furrows of the skin become greatly exaggerated. Soothing lotions, or the linimentum exsiccans (p. 17), are the most suitable remedies for acute cases; chronic ones require more active treatment, for the deep infiltration must be dispelled. Lotions are the safest remedies; greasy applications should be used with caution, and only to a small area. Salicylic acid and tar are the most useful active drugs for the dispersion of the infiltration, and in Duhring's words the use of the latter should be "cautiously experimental."

Eyelids.—Eczema in this situation usually occurs in strumous children who often at the same time suffer from other diseases of the eye. The pustular form of the disease is the most common, and crusts and scabs anchored by the lashes tend to increase the irritation. The crusts must be removed

by the liberal application of ointment. Allan Jamieson recommends as the best basis in such cases :—

R̄ Lanolini	ḡij
Ol. Amygdal. Dulc.	
Aquæ	āā ḡss

The parts should be bathed with a mild antiseptic lotion (boric acid) several times a day, and in obstinate cases the application of silver nitrate (1 per cent.) or caustic potash (gr. x to ḡj) may be tried. .

The irritation is in rare cases set up by the presence of the pediculus pubis, and in cases occurring in obviously neglected children, this possibility should be borne in mind.

The eyebrows may be the seat of a similar eruption, though inflammations in these regions are usually seborrhœic. The local treatment in these cases will fall short of success unless means are taken by tonics, good food, fresh air, etc., to improve the general condition of the patient.

Lips.—A dry scaly eczema is not uncommon about the lips. There are very few of the familiar signs of inflammation, there is little redness and no exudation. It will usually be found that in such cases there is some disturbance of digestion, and an acid and bitter tonic often does more good than the most skilful combinations of local treatment. Cold cream or Lassar's paste with 10 grains of salicylic acid will hasten the cure.

In some cases that part of the upper lip immediately beneath the nostrils is the seat of a moist inflammation, usually accompanied by considerable œdema. Such cases are due to the irritation of a nasal discharge, and no amount of local treatment will be of the slightest benefit unless the nasal catarrh is treated. Simple catarrh is usually soon cured by syringing the nostrils with a weak boric lotion (gr. iv to ḡj). If more serious conditions are present, they must be appropriately treated. The local treatment is of secondary importance. Lassar's or some other paste may be applied. Often the œdema is so great that most good can be got by producing free exudation by the application of liquor potassæ (p. 100). This is painted on, and when a considerable amount of fluid has exuded, the part is bathed with warm water.

The Beard Region of the male is often attacked. The process is the same as on other parts, but descends here and there into a follicle and leads to the production of pustules, which not only render the diagnosis more difficult (*see*

"Sycosis,") but the treatment too. For the differential diagnosis from *Tinea barbæ*, Sycosis, and *Impetigo contagiosa*, see page 143. The removal of the beard is essential. If shaving is objected to, though it is generally not so painful as expected, the hair must be close clipped with scissors. Those hairs which are surrounded by pustules should be epilated, and salicylic acid (gr. xx) combined either with sulphur (gr. xx) or hydrarg. ammoniat. (gr. v-x) in vaseline or zinc ointment (5j), should be well rubbed in two or three times a day.

Medicated soaps, such as sulph. camphor. or boric acid, should be used for shaving, and the lather should be thoroughly rubbed in before the operation. It is essential in bad cases that an ointment should be applied immediately afterwards, otherwise the inflammation may be aggravated.

Neck.—The nape of the neck is often attacked simultaneously with the flexor surfaces of both arms by a papular form of eczema. The rapid development and the simultaneous appearance in such widely separated situations certainly suggest causes other than local, and disorders of other organs should be sought for. The local treatment is that of papular eczema generally.

Sometimes the neck alone is the seat of a chronic infiltrated patch of eczema, usually of the erythematous and papular type. Such cases are best treated by the application of Lassar's paste, with grs. x-xx of salicylic acid, weak tar ointments, or tar varnishes (see page 18).

Trunk.—The more common forms of eczema in this situation are the erythematous and papular. Moist weeping eczemas of the trunk proper are rare. Most of the eruptions in this region are seborrhœic.

Only one region requires special description with regard to treatment, viz., the umbilicus. Here, on account of the infolding of the skin, eczema is apt to linger obstinately. Ointments should be well rubbed in, some should be applied on lint, and a pad of wool should be strapped over all to ensure as thorough application of the drug as possible. In very obstinate cases nitrate of silver in *Spiritus ætheris nitrosi* (gr. x to 3j), or caustic potash solution (1-10) may be painted on occasionally.

Axillæ.—A dermatitis may be set up by the decomposition of secretions, and presumably may arise from unknown causes. Most inflammations here are due to seborrhœa (*q.v.*). Treatment must be suitable to the form which the eruption

takes, but two circumstances must be kept in mind in treating eruptions in this situation : first, that the secretion of sweat is very free, and thus applications are very soon washed away ; and, second, that the shape of the cavity makes it difficult to keep lint spread with ointment in contact with the diseased surface.

The free secretion renders it desirable to use stronger applications than one would otherwise think of, and points to the use of pastes and powders, singly or in combination. The difficulty of application is overcome either by the use of salve muslins, cut in small pieces, or by the following device : After applying strips of cloth spread with ointment to the part, a lady's dress preserver, with a pad between the wings, is fixed in position with a turn of bandage. This keeps the drug in contact with the disease. Boils are very apt to form in inflammations of all sorts here, and the first sign of supuration should be the signal for antiseptic bathing and the application of dilute hydrarg. ammoniat. or some other mild antiseptic ointment.

Genital Regions.—The scrotum, and the skin of the thighs in contact with it, are often the seat of a very painful and distressing form of eczema. The type generally followed is the erythematous, but the anatomical peculiarities of the skin in this situation lend to it special characteristics. The skin is intensely red and swollen, and from the loose nature of the tissues beneath, the exudation extends deeper than usual, and the parts are often enormously enlarged. The surface is usually moist, and the warmth of the parts leads to decomposition of the excretions, and gives rise to a peculiar sickly odour. The contraction of the smooth muscles of the swollen skin causes a great deal of pain, and patients suffering from this form of eczema are usually very low in health and spirits. The eruption on the adjacent skin of the thighs usually takes the papular form.

TREATMENT.—Generally speaking, lotions are the best method of treatment. While soothing ones (zinc calamine) are the safest, the lead and tar lotion is in suitable cases more rapidly successful ; it should be applied very much diluted at first. As the discharge diminishes, some grease may be added to the application. Carron oil (Ol. lini, Aq. calcis āā pts. æq.) may be applied on lint, and for the drier stages, salve muslin (zinc ichthyol) or Hebra's ointment (Empl. plumbi, Vaselini āā pts. æq.) spread on thin rags may be applied. If the

itching is intolerable, nitrate of silver (gr. xv) in Spt. æth. nitrosi ʒj may be painted on; this is very painful for the moment, but forms a skin over the part, and certainly diminishes irritation for a time. Crocker finds that most relief is attained by the application of a mustard leaf over the lumbar vertebræ. Bathing with very hot water, or the application of a hot sponge, is sometimes of value. Free purgation does good sometimes, but drugs have little, if any, influence on this form of the disease.

It is very important in this, as in all eczemas, that every trace of the disease should have disappeared before treatment is abandoned.

When eczema attacks the female genitals, the possibility that it is due to diabetes must be first considered, and vaginal and uterine catarrh must be sought for and treated if found. Otherwise, in its form, course and symptoms, it closely resembles the disease on the scrotum, and the same treatment is generally applicable.

Anus.—When the skin in this region is inflamed, the parts should be carefully examined for hæmorrhoids, fissures and parasites. When any of these are present, their cure is usually followed by the disappearance of the inflammation.

Eczema in this situation is usually papular and infiltrated, the skin being sometimes almost leathery in texture. The heat and moisture of the part favour the growth of organisms, which find in the inflamed skin a *locus minoris resistentiæ*. There is occasionally intense itching, and patients have an anxious, careworn expression often suggestive of some more serious disease.

As already stated, some digestive disturbance is often connected with such cases, and these functions should be enquired into. The bowels should be regulated, but free purgation is to be avoided. Laxatives, not purgatives, should be prescribed. The parts must be kept scrupulously clean by the use of soap and hot water. After washing, it is desirable to lubricate the part, so as to minimise the drying effects of the soap. A paste consisting of Magnes. carb. lev. ʒiij, Vaseline ʒv, is often useful. The intense itching may be moderated by the application of tar or carbolic acid lotions. The strength of the tar may be gradually increased. The valoid picis (page 108) may in some cases be painted on pure. Salicylic acid in a paste (gr. x to xxx) aids in dispelling the infiltration, but if these comparatively mild methods fail,

more active ones must be resorted to. Pure carbolic acid may be painted on, caustic potash solution may be applied (page 100), or the patient may be put under chloroform and the diseased surface ironed with the Pacquelin cautery at a dull red heat. This is by far the most efficacious treatment, though patients are naturally desirous of trying milder measures first.

Legs.—Eczema on the thighs presents no special peculiarities. It is usually papular in form. The term *Eczema marginatum* is applied to the eruption of ringworm in the genito-crural regions. It often extends down the thigh (*see* "Ringworm.") The flexures of the knees are often the seat of a papular, infiltrated, fissured eczema. This usually itches severely, and as no part of the body is more favourably seated for scratching, the disease is usually very persistent. Eczemas here are surprisingly tolerant of treatment, and strong applications may be used. Salicylic acid (5–7 per cent.), or tar (3j–3j) may be applied in ointments; a good scrubbing with soft soap usually does good, and Hebra's caustic potash treatment may be used with advantage in obstinate cases.

Eczema below the knee owes most of its peculiarities to congestion of the skin. Once started, an inflammation here is delayed in healing by the stasis of the blood, which is, of course, most marked where there is varicosity of the veins. Consequently, eczemas of the leg are usually intensely red and moist (eczema rubrum). Slight injuries, which in the healthy would be unnoticed, may be the starting point of a varicose ulcer with all its complications. In less severe cases, the congestion only interferes with the final stage of cure, and a scaly form of the disease may persist indefinitely.

Rest is of primary importance. While retirement to bed with the feet elevated is the ideal, it is fortunately not the only method of giving rest to the skin, for to working people the advice to go to bed for some weeks is a mere "counsel of perfection." Unna's zinc gelatin is an excellent substitute. If desired, it may be made very stiff by using equal parts of zinc oxide, gelatin, glycerin and water. This contracts as it sets, and by its supporting pressure forms a wonderful rest for the skin. Hebra's ointment spread on strips of cloth, and applied after the fashion of the many tailed bandage, is more useful in the moister stages of the disease, and in the drier ones Pick's salicylic soap plaster is excellent. From 2–5 per cent. of salicylic acid is melted in the soap plaster, which, when

still warm, is spread on butter cloth and hung up to dry. Strips of this, over-lapping each other, are then applied to the limb. The first dressing should be renewed in twenty-four hours, but subsequently the intervals may be lengthened until as much as a week may intervene. This method is both efficient and cheap. In the slighter scaly forms strips of lint soaked in equal parts of cod-liver oil and oil of cade are often useful, the tar relieving the itching. Rest and support are the essentials; the simple application of ointment is almost useless.

Arms.—Eczemas of the arm have no special characters. Papular forms are the commonest. Many are due to some irritant connected with the patient's work, and are therefore really traumatic inflammations. The apparently neurotic form which appears simultaneously on the flexures of both elbows and on the back of the neck, has already been referred to (page 97). Scabies often closely simulates eczema, and the hands and wrists must be carefully examined for definite signs of that disease.

Hands and Feet.—Cheiropompholyx, which some still regard as an eczema, has already been dealt with. The skin over the first metacarpal is often the seat of a patch of seborrhœic eczema.

The eczema which attacks the palms and soles owes its characters to the anatomical structure of the skin of these situations. The horny layer is especially developed and resistant, consequently the exudation does not readily make its way to the surface, but diffuses itself through the thick layers, which are afterwards separated in large thick flakes. The skin beneath is sodden, and deep fissures extending down into the true skin are of common occurrence.

The object in treatment is to remove the horny armour which covers the surface, so that our remedies may reach down to the disease. This is best done by the application of Pick's salicylic plaster (5 per cent.). Strips of this should be closely applied, and changed daily. The parts may be bathed in alkaline solutions, and in very obstinate cases soft soap may be applied as a dressing. When the thickened skin has been removed, salicylic ointments (3–5 per cent.) will generally complete the cure, or strong solutions of tar are often more useful. It is unfortunate that there is no standard preparation which all could agree on. I do not find the *Liquor picis carbonis* of the new Pharmacopœia so useful as the *valoid*

picis prepared for me by Messrs. Baidon & Son, which is made by a very similar process. Nearly every dermatologist has a favourite solution of tar, and though their differences are not striking, we each hold by our own preparation, being familiar with its action.

In eczemas of the palms and soles, when the horny masses have been removed, or in slighter cases from the first, this tarry preparation is painted on pure once a day, and cases seem to me to improve more rapidly under it than under any other treatment. If, however, after the removal of the scales, vesicles tend to appear on a tender reddened skin, less active methods must be employed. Lassar's paste, with 10 grains to the ounce of salicylic acid or resorcin, should be rubbed in two or three times daily. The salve stick (page 22) is very suitable for such cases, as it can be carried in the pocket and used at any odd moment.

SEBORRHŒA (and Seborrhœic Dermatitis).

(*Sebum* or *sebum*—*suet*, and *ῥέω*—*to flow*.)

The word seborrhœa indicates, of course, an excessive activity of the sebaceous glands, and in that sense the term was first introduced, and in that sense it was long used. Two varieties were distinguished, *Seborrhœa sicca* (pityriasis capitis), and *Seborrhœa oleosa*, according as what was assumed to be the discharge from the sebaceous glands was dry or oily. Investigation has shown that these old meanings could no longer be adhered to. Microscopic examination of the scales in seborrhœa sicca showed that they were composed of epidermic cells, and thus could hardly originate from discharged sebum. Seborrhœa oleosa is better termed *Hyperidrosis oleosa*, for the secretion comes, to some extent, at least, from the coil glands. The sebaceous secretion is a solid not a liquid fat, at least when exposed to the air.

Still the name remains, and the greasy character of the scales, and custom, place seborrhœa in most books under the heading of Anomalies of Secretion. At the present stage it is, perhaps, well to limit the use of the term seborrhœa to that condition which is universally or almost universally recognised as such, and to use, for the less generally admitted forms, the term Seborrhœic dermatitis. Duhring has led the way in boldly naming one variety Seborrhœa corporis, and his example might profitably be followed by others.

Seborrhœa, as generally understood, includes the condition known as dandruff, in which the scalp is covered with a dry powdery dust which is shed whenever the hair is disturbed. In other cases, however, the amount of oily material is present in such excess as to anchor the scales to the scalp, so that on superficial examination there appears merely a diffuse yellow discolouration, the nature of which, however, is at once disclosed by scratching with the finger nail. The scalp is not reddened, any disturbance is limited to slight itching, and in the majority of cases the disease does not extend further than this. Usually there is gradual thinning of the hair, but as a rule none of the ordinary signs of inflammation are present. Exceptionally, however, on the scalp, and invariably when the disease spreads to other parts of the body, the more familiar signs of inflammation appear. It seems difficult for some to absorb the fact that processes so apparently different are one and the same. Yet if one takes another disease, a familiar one, in which the cause is more definitely known than in this, the same phenomena are noticed. In ringworm, the affection of the scalp is a *dry scaly* one, with hardly any of the ordinary signs of inflammation. If the disease is inoculated on some other part of the body, then there appear the redness, the swelling and the exudation, which convince anyone that we are dealing with an inflammation. Other less common diseases illustrate this tolerance of the scalp to irritation, and it is further illustrated by its tolerance of irritant remedies. These facts, coupled with the results of investigation by Unna and others, are surely sufficient to show that, in spite of its apparent mild character, seborrhœa is, nevertheless, an inflammation. On the scalp, as already said, occasionally the more familiar signs of inflammation develop, as they do in ringworm when they lead to the production of kerion. The skin becomes red and swollen, and fluid in varying amounts exudes from its surface. This cakes the scales together, and they form a covering which to some extent arrests the discharge, and this, decomposing, adds to the irritation. When this condition is developed, we have what is known as Seborrhœic dermatitis of the scalp, the Eczema capitis of the older authors.

In cases of this severity, however, and in many others which do not reach such a degree, the eruption is not limited to the scalp. When the scalp is inflamed, the eruption tends to spread *on the forehead and behind the ears*. Even in the

absence of the evident inflammation of the scalp, these regions are not infrequently affected, and then we see at once the change in type of the disease. From being a simple dry catarrh of the skin, without any evident hyperæmia, there is rapidly developed a reddened swollen skin with vesicles or exudation. Perhaps more frequently in cases where the head is not inflamed, the extension is to the face (*see* "Rosacea,") the sternal region, and the inter-scapular region. On the chest it was long dignified with a special name, *Lichen circinatus*, or *marginatus*, and apparently Duhring, of Philadelphia, was the first to point out its seborrhœic nature, and to describe it as *Seborrhœa corporis*. Here the signs of inflammation are evident enough. Commencing in small red spots, the disease rapidly spreads, in rings or circles, which have a very characteristic appearance. The border may be occupied with papules and vesicles, the centre is of a reddish yellow colour, and the surface greasy. A few moist scales may be present. The disease in the interscapular region, where it is less frequent, presents similar characters. Other favourite situations for the typical seborrhœic dermatitis are the axillæ and groins, where an even greater tendency to rapid gyrate spread, and the yellow greasy character may be observed. The disease is by no means limited to these situations. It may extend to any part of the body and to a great many parts at one and the same time. The characters vary, sometimes the spots resemble those on the sternal region, papules and vesicles being present. Sometimes the eruptions are crusted, and most frequently of all *scaling* is the most prominent characteristic. Usually the spots have the same yellow colour which the centre of the patch over the sternum presents, but, as the moisture in them decreases, the drier become the scales, the less is the yellow colour evident, and they take on an aspect indistinguishable from the spots of psoriasis. Occasionally the spots are so numerous and spread so rapidly as to cover almost the whole surface of the body, and when this is the case the disease sometimes alters its character, the infiltration of the skin disappears, it takes on the character of a general exfoliative dermatitis (*q.v.*), and is then known as *Pityriasis rubra seborrhoica*. The spots, though usually but little elevated, are occasionally thickened and prominent, a circumstance which will be referred to under diagnosis.

The disease affects all ages and both sexes. In infancy,

seborrhœa is appallingly common, and there is little doubt that if it were then more thoroughly treated, there would be fewer cases in after life. In infants, this, in common with other diseases, tends to moisture and suppuration, and this, possibly, explains the statement that psoriasis is practically never seen in children under seven. Sex has apparently little bearing on the disease, although probably males are more frequently affected than females.

HISTOLOGY.—Microscopic examination shows very much the same changes as those described under eczema (p. 89). Parakeratosis or irregular cornification is always present, and usually a very prominent feature, and epithelial growth and moisture are also found. While a section of one spot from a patient might almost pass for a vesicle of eczema, another may be indistinguishable from typical psoriasis. For a fuller description of the histological phenomena, see "Eczema."

NATURE AND CAUSE.—It does not seem a right interpretation of Unna's views to say that he regards seborrhœa as an inflammation of the coil glands. If I understand him aright, his contention is that it is a specific inflammation caused by a definite organism, which in addition to producing irritation, also stimulates the coil glands to greater activity in the direction of the production of fat, and it is this which confers the yellow character on the eruption of the disease. The cause he finds in the presence of a micro-organism which he has christened the *Morococcus*. These organisms are rarely found in the vesicles, but with almost unfailing certainty in the scales and the coagulated fibrin which is mingled with these. They are always present in greatest numbers where the disease is most active, and are in definite relation to it. They are arranged in clusters, like a raspberry or mulberry; hence the term morococcus, from *μῆλον*, a mulberry. It is, no doubt, a weak point in the argument that they are not found in great numbers on the scalp. The flask or bottle-shaped bacillus is there in great abundance, while the morococci are only found with difficulty. By inoculating cultures of this organism on the skin, Unna has succeeded in producing a vesicular eruption resembling the original disease, and he is quite satisfied that in these organisms we have to look for the cause of the malady.

It must be admitted that Unna's views with regard to this organism, have not found very wide acceptance. I have found

them in some cases in excised portions of skin, and there they are, as Unna says, clearly in greatest numbers where the disease is most active. Still, that might be a coincidence, or rather it might only show that in those diseased situations saprophytic organisms flourished more luxuriantly. This is certainly a widely-held view, but it should not be forgotten how much easier it is to produce destructive criticism of the views of others than to undertake prolonged and careful research for the purpose of confirming or contradicting the observations of those attacked. Even if the morococcus is not the cause of the disease, Unna has done an immense service to dermatology by his separation, clinically, of this form of inflammation.

DIAGNOSIS.—Seborrhœa of the scalp should not be mistaken for any other disease. As I regard psoriasis as practically the same disease, it is unnecessary to draw distinctions. While sometimes "psoriasis" spots are present, in the majority of cases there is merely a diffuse scaling absolutely indistinguishable from seborrhœa. Ringworm may somewhat simulate seborrhœa, but the broken, fungus laden hairs are absent.

On the body most stress should be laid on the yellow, greasy character of the early spots. The earliest redness is often described as of a salmon tint, but it is the yellow tinge in the colour which is most distinctive.

The number of diseases it may simulate is considerable :—

1. *Pityriasis rosea*.—The yellow centre with the red margin found in this disease at once suggests seborrhœa corporis. Apart from the distribution, which is usually different, the spots themselves show distinctive characters. The spots of pityriasis rosea have a rosy red border not elevated above the surrounding level, and the yellow surface usually has a dry, wrinkled appearance. The history, if correctly given, is quite different (see p. 127).

2. *Syphilis*.—What we have to consider in this connexion usually is, not which disease is present, but whether both are, for the syphilitic eruption which resembles this is not the early roseola but a later one, which is really a combination of syphilis and seborrhœa.

In a very large proportion of cases the *feeling* of the spot is conclusive. If the finger be passed pretty firmly over one of the spots, the syphilitic one gives to the observer the sensation of something being present *beneath* the skin as

well as on and in it. In seborrhœa the increase is in the epithelial cells, which are heaped up on the surface. When syphilis is present we have, in addition, a new growth in the true skin, or even deeper a multiplication of the connective tissue cells. Other signs of syphilis must of course be sought for.

3. Ringworm.—Especially in the genito-crural and axillary regions is this disease liable to be confused with seborrhœa. Both have a gyrate margin, both spread rapidly, and in these situations the centres of both have a yellowish tinge. Ringworm tends to have more vesicles and pustules on its borders, but the diagnosis is sometimes difficult, and a careful examination of the scales for fungus, and of the other parts of the body for other evidences of one or other disease should invariably be made.

4. Psoriasis.—That typical cases of seborrhœic dermatitis are very different from typical cases of psoriasis is self-evident. The typical eruption of psoriasis is characteristically dry, that of seborrhœic dermatitis moist and greasy. But intermediate cases occur about which, so long as the distinction is made, there will always be differences of opinion, and it is not a very satisfactory means of distinguishing between two diseases, to take the word of a patient as to whether the disease began on the elbows and knees or on the scalp.

Practically there is no hard and fast line, but the term psoriasis may be retained for the clinically dry form of the disease.

PROGNOSIS.—Seborrhœa on the scalp is so difficult to cure radically that the prognosis is by no means invariably good. While the lesions on the body may be cured easily, there is always the likelihood, so long as the disease remains on the scalp, that any slight disturbance of general health, any local irritation of the skin, will be followed by a fresh outbreak of the disease.

TREATMENT.—No treatment will be successful unless it is thoroughly recognised that *the scalp* is the important factor in the production of the general disease. Treatment of the scalp, therefore, is the alpha and omega of the treatment of seborrhœa and seborrhœic dermatitis. The most satisfactory way of removing the diseased products from the scalp is thorough washing with soap. Opinions differ as to the form of soap to be used. Hebra's soap spirit (℞ Saponis mollis

3iv, Spt. vini 3ij) is almost always satisfactory. The head should be thoroughly shampooed with this at intervals which vary with the extent and stage of the disease. Thus, if irritation is entirely absent, the scalp may be washed daily; if there are any signs of redness, the intervals may be lengthened. This alone suffices to cure slight cases but as a rule some further treatment is required.

The two drugs which have most influence on seborrhœa are sulphur and salicylic acid. They may be used to the scalp in a very much more concentrated form than is applicable to other portions of the body. There is, however, probably not much gained by commencing with too strong an application: 15 grains of each in an ounce of vaseline should be tried, and the proportion increased as experience shows to be necessary. During the prolonged treatment which is usually required, the patient is apt to tire of greasy applications, and under any circumstances they are objected to by ladies. A salicylic lotion (℞ Ac. salicyl. 3j-iv, Ol. ricini 3ij-vj, Ol. ros. geran. ℥x, Spt. vini ad 3vj) is a pleasant substitute. The amount of castor oil should be increased if the hair is dry, and *vice versâ*. Men can apply this by shaking a bottle with a perforated cork over the scalp, and then using a pair of brushes; ladies should procure a spray with a long nozzle, which can be used so as to ensure the application reaching the scalp. Other drugs which may be used in the dry form of the disease are tannin, $\frac{1}{2}$ to 1 drachm to the ounce, and pyrogallol 3j-3j. This is sometimes exceedingly efficacious, and on the scalp it does not cause the same amount of blackening which so interferes with its use on other parts of the body. This is, according to Unna, due to the more acid reaction of the excretions, which prevents the reduction process. If the disease has gone further, and the scales have been converted into moist crusts, while the skin beneath is reddened, then treatment must at first be less severe. The scales may be removed by soaking the scalp with oil. If the case is severe, the hair should be cut, and the skin dressed continuously with some preparation containing sulphur and salicylic acid spread on strips of lint. Like Leistikow, I have not found any great objection to the use of pastes on the hairy parts, and a prescription containing salicylic acid and sulphur, of each 10 grs., oxide of zinc 3ij, vaseline to 3j, is often successful in such cases. As the moisture diminishes, the amount of zinc in the

prescription may be diminished also, and the proportions of the other drugs, if necessary, increased.

When the disease has spread to the body, the treatment must be regulated according as the skin reacts with the formation of vesicles, scales or papules. When the disease spreads directly from the head to the neck and behind the ears, the eruption is usually moist, and for such a condition the paste which goes in this country by the name of Lassar's, is a very valuable application. If I understand rightly, Lassar's original paste consisted of oxide of zinc, powdered starch, of each ʒij ; vaseline, ʒss . The name Lassar's paste is, however, usually applied to that preparation with the addition of 10 grains of salicylic acid. Mr. Morris' prescription of 10 grains of sulphur to an ounce of zinc ointment is also often valuable, as are the older-fashioned remedies of plain zinc ointment and Hebra's diachylon ointment. The essential of success in the treatment of such cases is to keep the part constantly covered.

As the eruption takes a more and more scaly form, for some reason unknown to me sulphur appears to become less suitable, and in the driest forms, where much more active remedies, such as chrysarobin, etc., may do well, sulphur appears to irritate and aggravate the disease. The same is fortunately not true of salicylic acid, which may be used in strength of from 3 to 10 per cent. according as the eruption is widespread or limited, for strong salicylic ointments applied to large surfaces of the body are liable to be absorbed and to give rise to symptoms of salicylic poisoning. The treatment of the very dry forms of the disease which I regard as indistinguishable from psoriasis, will be found under that disease.

When the main histological change is proliferation of the prickly cells, evidenced clinically as a papular eruption, the difficulties of the physician are increased. Persistently papular eruptions are the most difficult to manage. The application of even the mildest ointments often aggravates the disease, and we are often compelled to make a trial of many remedies before one is found to suit. The patient's great complaint in such cases is itching, and it is often wisest to commence with the symptomatic treatment of that condition. The lead and tar lotion is often well borne when apparently more suitable treatment is not. It soothes the itching, and many of the papules seem to subside under its application. If more active treatment is requisite, it should be commenced on a small

scale, and extended only if it be found to suit. Zinc pastes with a little salicylic acid may be tried, and pyrogalllic acid is often efficacious. Sulphur aggravates this variety of the disease. The zinc ichthyol salve muslin will often be of benefit, while the skin seems to resent an almost precisely similar ointment. Fortunately the truly papular forms of the disease are rare.

ROSACEA.

The word acne in association with this disease is daily and deservedly losing its place. It was applied because there are very frequently found in rosacea, pustules which do have a certain superficial resemblance to those of acne vulgaris. The older books devoted considerable space to the distinctions between the two varieties of pustules, but they are easily compressed into the statement that in acne the comedo is the starting point of the disease, and *is the centre of every pustule*, while in rosacea the pustules *are secondary* to the disease, and have *no necessary* relation to the sebaceous glands. Without going the length of denying a neurotic element in certain cases of rosacea, it is almost certain that the vast majority of cases are due to seborrhœa, and that rosacea is really a form of seborrhœic dermatitis. That the nervous system plays a *rôle* is correct enough, that stomach disturbances, etc., may aggravate the condition is also true, but the real cause of nineteen out of twenty cases of rosacea is seborrhœa of the scalp, the disease being due to the constant irritation of the skin produced by the deposit on it of the scales and organisms (?) of seborrhœa.

Rosacea is much commoner in the female than in the other sex, and here, probably, the neurotic feature is important in giving to the organisms a favourable soil for their growth. The disease consists firstly in a dilatation of the minute blood-vessels, and then in an inflammation of the skin—a dermatitis, which culminates at certain points in the development of a small pustule. The distribution of the disease is very characteristic, the nose, the cheeks, the chin, and forehead regions being specially affected, in short, the centre of the face. The hyperæmia keeps up a constant state of hypernutrition of the skin, which leads to the development of increased fibrous tissue, evident in the milder cases as simple thickening, and in the more severe cases as those hypertrophic, pendulous masses which go by the name of rhinophyma or potato nose.

The disease is often erroneously attributed to irregular habits in regard to alcohol, and undoubtedly alcohol, along with a good many other articles of diet, by its tendency to distend the cutaneous blood-vessels, does contribute to the development of the disease. But all must be familiar with cases of the disease in teetotal friends, and alcohol is only one of many factors. All the dyspepsias which lead to flushing, increase any latent tendency to the disease, and they have therefore a very intimate relationship with its etiology, treatment, and prognosis. But underlying all is seborrhœa, and the recognition of this and its appropriate treatment will result in a greatly improved recovery rate in the disease. To ignore the local cause is as absurd as is the charge often made against the externalists that they ignore internal conditions.

The treatment of the disease, therefore, divides itself into two parts, local and general, and as the local is the more important, it will be considered first.

LOCAL TREATMENT.—The seborrhœa of the scalp, which will be found more or less developed in all cases, is to be treated by frequent washings with soap spirit, and the application to the scalp of a sulphur and salicylic acid ointment. The seborrhœic scalp will stand stronger applications of salicylic acid than any other part of the skin, and a drachm to the ounce may frequently be applied with benefit. Sulphur, in paste or ointment, should be applied locally. It has, in addition to its antiseptic effect, a certain action in constricting the vessels, an action which its relative ichthyol is said to possess in even a greater degree.

R̄ Ichthyol ̄j
 Aquæ ̄j
 Paint on twice daily.

If the amount of irritation is not very great, the method of shelling the skin with resorcin, described under "Acne" (p. 142), may be tried with good effect. The dilated vessels are sometimes so numerous and so large as to be beyond the reach of drugs, and require mechanical treatment. Electrolysis is recommended by some, the needle attached to the negative pole being introduced into the capillaries, and a current of 3–5 Ma., being allowed to pass until the blood in the vessel is coagulated. Confirmed by histological investigation, Unna uses in preference the fine point of his microbrenner (described under "Lupus"). It is used at

a dull heat, and the blood in the vessels is coagulated as with the electric needle. Some slit up the vessels with a fine knife, while others occlude them by multiple scarification. If the mouths of the glands are wide and gaping, they may be stimulated by a touch of the needle of the *microbrenner*. In cases where there is great irritation, a boro-calamine lotion

R Calaminæ	
Zinci Oxidi	āā ʒss
Ac. Borici	ʒj
Glycerini	ʒij
Aq. ad	ʒvj

may be used for a few days until that subsides, but more active means will be necessary to complete the cure.

GENERAL TREATMENT.—The lines of general treatment in this disease are easily indicated. The patient must keep the system in the best of health, particular attention being paid to regularity of the bowels, and in regard to diet he must avoid *everything which experience has shown causes any flushing of the face*. This in general includes all forms of alcohol, tea, spiced meats and condiments. Probably curry is really much more harmful in rosacea than alcohol, although the alcohol has the worse name. Violent exercise, unless the patient is in good condition, is undesirable, and unnecessary exposure to the sun will, by producing hyperæmia of the face, aggravate the existing condition. If any patient were so foolish as to insist that he would only follow one or other line of treatment, internal *versus* external, there is no doubt at all that the external treatment is the one which would be followed by most improvement.

ALOPECIA SEBORRHOICA.

Premature baldness, that gradual thinning of the hair which is so very much more common in young males than in the opposite sex, is invariably due to seborrhœa. It is unnecessary to discuss here the exact method by which the hair is lost, and to explain how it is that in certain cases, although seborrhœa is present in amount, there is no loss of hair. The great predominance of baldness in the male sex is probably to be explained by their more frequent visits to the barber, rather than by the wearing of hard hats, etc., for baldness is at least as common now as it was when these hats were more universally worn. Probably there would be less were it not for the prevalence of the absurd tradition that washing of the scalp is injurious.

PROGNOSIS.—If left alone the condition steadily advances until all but a fringe at the sides and back of the scalp is lost. But treatment, if persevered in, can arrest it at almost any stage, and generally brings about some improvement.

TREATMENT.—This is practically that already described under seborrhœa. In slight cases daily washing with soap spirit is enough for cure. It is incredible how long some people (cleanly people) are willing to go without washing their scalps. The applications vary with the cases. The salicylic lotion recommended on page 115 is very suitable, salicylic pomade (5 per cent.) made with lanolin and water is perhaps more useful, though less agreeable, and to either a small amount of cantharides may be added if desired. Cantharides has the power of promoting epithelial mitosis, and, therefore, justifies the popular belief in its efficacy. It is, however, valueless used alone; the seborrhœa which caused the disease must be the main object of our attack.

PSORIASIS.

Although in all likelihood psoriasis is merely the extremely dry type of seborrhœic dermatitis, this is by no means generally admitted, and it is such an old-established condition, and presents so many marked characteristics, that in spite of what time may show regarding it, it is desirable that it should have a section to itself. The disease requires little description; everyone is familiar with the dry silvery scales and the red circular patches of psoriasis. The varieties of it are infinite, from minute scaly spots (Plate IX) on the patient's chest, up to large patches on the back as much as a foot in diameter (Plate X). While the silvery scales are usually prominent, there occur cases where they are not actually visible. In such cases they can be at once brought into view by lightly scratching the part with the back of the finger nail. This as a test for psoriasis is of much more value than the old one of removing the scales with the nail and disclosing small bleeding points, for that phenomenon entirely depends on the vigour with which the part is scratched.

The disease affects both sexes and all ages, although it is most common in young adults, and is rare under seven years of age. It is generally described as being distributed on the extensor surfaces, and as being most marked upon the elbows and knees, where it is usually said to commence. It will be found, however, that a great many cases admittedly com-



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75

PSORIASIS.

mence on the scalp, which is almost always affected, and this, of course, is another argument in favour of a relationship to seborrhœic dermatitis. When a section is examined, the appearances presented are very similar to those of the drier forms of that disease. There is a proliferation of the epithelial cells, and the epithelial ridges are consequently thicker than normal, while the papillæ reach more nearly to the surface than they normally do. This is the explanation of the bleeding points. When the epithelium is removed by the finger nail, papillæ are reached sooner than they are in healthy skin. The epithelial cells show very marked parakeratosis, the nuclei being preserved right up to the surface.

DIAGNOSIS.—The diagnosis of psoriasis from seborrhœic dermatitis is of no importance. As already indicated, in the view of many they are one and the same disease, and a dry seborrhœic inflammation responds to the same treatment as does typical psoriasis. From the moister forms it is easily enough distinguished mainly by that very character of moisture; the spots in the seborrhœic dermatitis have a yellower colour, and the scales are not of the dry powdery nature found in psoriasis. Distinctions are often drawn between psoriasis and the so-called syphilitic psoriasis, and rules for distinguishing between the two are formulated. There should not be much difficulty in this. There are two syphilitic eruptions which do somewhat resemble psoriasis. The rash in the secondary period is occasionally somewhat scaly; but there are certain points of distinction which should make the diagnosis easy enough. Firstly, the distribution. The syphilitic rash is more common on the trunk, while the typical psoriasis is also found on the extensor aspects of the limbs. The spots in syphilis are, as a rule, smaller than those of psoriasis. The colour in psoriasis is pink, while in syphilis it is a mixture of deep red and yellow. Chiefly and most important of all, when the spots are felt there is in the syphilitic one *a feeling of growth*. One is conscious of the presence of something *under* the skin as well as *in* it and *on* it. This sign is probably the most useful of all the distinctions. In addition, one has, of course, in syphilis, the presence of other manifestations; the affections of the throat and glands are not present in psoriasis. It must, however, not be forgotten that there is nothing to prevent a patient from having both diseases at the same time.

The other form of syphilis which may be confused with psoriasis is the late scaly syphilide. Sometimes very late in the tertiary period, it may be thirty to forty years after inoculation, the patient is attacked with a pretty wide-spread eruption which does have a certain resemblance to psoriasis. The patches are scaly and spread in rings or perhaps more often in ovals. There is, however, the very great difference that a scar is left, and this is never found in psoriasis.

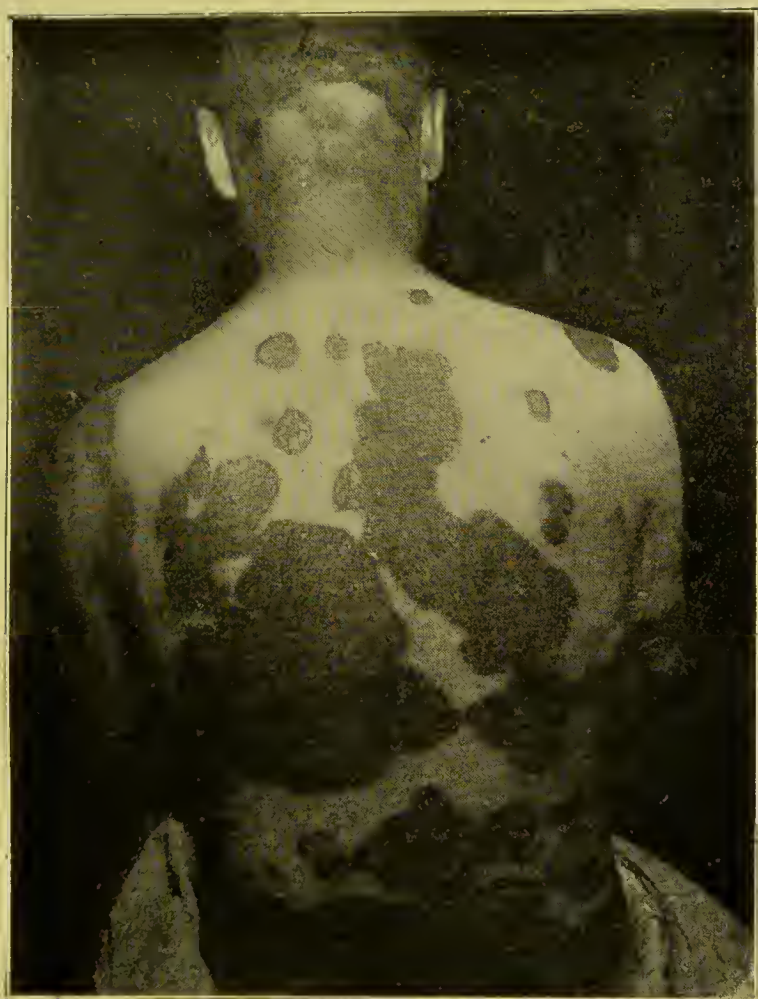
A disease which is very frequently confused with psoriasis is lichen planus, which confusion is mainly owing to the very unsatisfactory arrangements for teaching dermatology in our schools. Lichen is by no means an uncommon disease, but it is passed over with the briefest of notes in systematic lectures, while psoriasis has given to it possibly an undue importance. For a full description, the section on "Lichen" must be referred to, but it may here be noted that the initial papule of lichen is not scaly, indeed, it is only in chronic cases where patches have formed that any marked scaling develops. Even then it is of a greyish colour, quite different from the silvery scales of psoriasis. A treated psoriasis is much more easily mistaken for a lichen than an untreated lichen for any form of psoriasis.

PROGNOSIS.—The prognosis of psoriasis as regards individual attacks is good, but the disease is exceedingly likely to recur. Indeed, if it is treated by itself, and all reference to seborrhœa ignored, it is absolutely certain to return; the importance of the treatment of seborrhœa and its bearing on the recurrence is one of the strongest arguments in favour of the identity of the diseases. Even with regard to life, the prognosis is not absolutely good. No doubt psoriasis by itself never kills, but it may develop into pityriasis rubra, and then the prognosis becomes that of the latter disease.

INTERNAL TREATMENT.—There are many drugs which some believe have the power of influencing psoriasis. Only four will be here referred to:—

Arsenic.—In suitable cases there is no doubt that arsenic has a beneficial effect on this disease. It is its indiscriminate use which has led to its falling partly into disrepute. If the case is recent, if the spots are red and are increasing in number, arsenic is certain to aggravate the disease. If, on the other hand, the disease has lasted for some time, if the spots have ceased to spread, if they are of a pale pink colour, and if there are none showing any tendency to mois-

PLATE X.



PSORIASIS.

ture, then arsenic judiciously administered will hasten their disappearance. The actual form of administration is not of very much importance. In this country, Fowler's solution is usually prescribed (see p. 12); Kaposi prefers to administer it in the form of the so-called Asiatic pills, the formula for which is:—

℞ Acidi Arseniosi	0·5
Piperis Nigri	5·0
Gumi Arabici	1·0
Aquæ q.s. ut fiant Pil.	100.

Small doses should be given at first, and these should be increased until either the disease shows signs of remitting, or unpleasant symptoms are developed. In that case, the drug should either be stopped or greatly diminished in dose. If it is continued in spite of the warning symptoms, the psoriasis will often enough apparently benefit, just as leprosy does under arsenic, but when the patient again regains his strength, so does the psoriasis. When the disease is improving, it is enough to continue with the dose which has wrought that improvement. In rare cases, arsenic long continued produces a greyish pigmentation of the diseased spots.

Salicylate of Soda.—This treatment was first introduced by Crocker, and it is of undoubted value in many cases. Fortunately it is especially useful in those cases where arsenic is injurious. If the disease is spreading, if the spots are red, and if there is any tendency to moisture, it should be preferred to arsenic. It is a drug which may be pretty well pushed.

Iodide of Potash.—The use of iodide in the treatment of psoriasis arose in Denmark. It is applicable to both varieties of the disease, but if it is to be used it must be given a fair chance. The doses requisite are enormously larger than we are in the habit of giving in this country, reaching to as much as a drachm or a drachm and a half three times a day. It is well to bear in mind that iodide of potash is a somewhat expensive drug, and while admitting that it does influence cases, I do not feel that it is a method greatly to be recommended.

Thyroid Substance.—It so happened that the first case of psoriasis on which this treatment was tried was a patient of mine whom I handed over to Dr. Byrom Bramwell. I admit freely that under the administration of thyroid substance psoriasis does disappear, but I cannot admit that the disadvantages and risks attendant on its use are by any means

compensated for in a result which can be attained by many other less dangerous remedies. If it must be given, the patient should be under constant medical supervision. If it is to be thoroughly tried, the patient must remain in bed and be carefully watched. I have seen enough of the disadvantages of thyroid to give a pretty emphatic opinion that it should not be used in psoriasis.

EXTERNAL TREATMENT.—The description of this involves a certain amount of repetition in connexion with the treatment of seborrhœa, for the treatment of the disease on the scalp is of primary importance. It should be thoroughly scrubbed daily with soap spirit, and an ointment of salicylic acid, half a drachm to the ounce, or pyrogallol, a drachm to the ounce, well rubbed in. For the rest of the surface, while there are many remedies, there are three which stand out very prominently as the most efficacious. These three are chrysarobin, tar, and salicylic acid. Chrysarobin is undoubtedly the best remedy if the patient is desirous of a rapid cure and can give himself up to treatment. Baths should be taken twice daily, and while in the bath the patient should, with a nail brush, scrub all the affected spots and remove the scales. On coming out he should be well rubbed (not rub himself) with an ointment containing chrysarobin. Unna's compound chrysarobin ointment is much better than a simple one:—

R̄ Chrysarobin	5.0
Ichthyol	3.0
Salicylic Acid	2.0
Vaseline	90.0

This, of course, is restricted to the body, for chrysarobin applied to the scalp without very special precautions sets up an intense erythema of the face and a severe conjunctivitis. The use of chrysarobin necessitates the use of the oldest of clothes, for they are irretrievably ruined by the drug. In a few days the patient begins to feel uncomfortable, the skin becomes inflamed and irritable, and presents a curious negative of its previous condition, all the diseased spots standing out white against the inflamed, previously healthy skin around them. This effect of chrysarobin is shown in Plate IX on the arms of the patient who was treated in this piecemeal fashion to demonstrate that the effects of the drug were purely local, and that its application did not affect the eruption generally, as has sometimes been stated.

At this stage it is a too common practice to arrest the treatment for a time until these signs of irritation have gone. If this is done, most of the benefit of the patient's discomfort will be lost. The treatment should be continued until the white areas become reddened like the rest. This involves a certain amount of fortitude, for the discomfort is considerable, but it is essential to the full carrying out of the treatment. When the skin has become uniformly red, some mild application such as zinc ointment should be substituted, and a careful watch kept for any new spots which may arise. These should be treated by the application of strong salicylic colodion, which will generally prevent their further development. The use of chrysarobin in any less thorough manner is usually disappointing, and if it cannot be applied in this way, some other remedy should be preferred.

Tar.—Tar is the safest of all remedies for psoriasis, and may be entrusted to patients of ordinary intelligence without their being under direct medical supervision. It may be freely applied in the form of an ointment (5 to 10 per cent.), to any part of the body, for it has none of the disadvantages of chrysarobin with regard to the face. If used in this way the patient (indeed all patients with psoriasis) should take frequent baths, and mechanically remove the scales from the diseased spots. A very efficacious method is the use of the tar bath, the patient painting himself all over with *pix liquida*, before entering the bath, in which he spends half an hour. Another way in which tar may be used is in soap. In the bath the patient lathers himself freely with one of the medicated soaps: the ichthyol tar soap, made by all the medicated soap manufacturers, is suitable. This lather is well rubbed in and allowed to dry on, the patient sleeping in a flannel night dress. As with soap treatment in general, the precaution must be taken of omitting it on, say, one night a week, on which night the patient should apply some form of grease, medicated or not.

Salicylic Acid is most appropriate to those cases which are not very widespread, for strong ointments of salicylic applied to large surfaces are very apt to be absorbed, and lead to diminution in the amount of urine with the other symptoms of salicylic poisoning. For limited cases it is a valuable remedy, and may be applied simply dissolved in vaseline in the proportion of 3 to 6 per cent.

Rather remarkably, sulphur, which is so valuable in the

moister conditions of seborrhœic dermatitis, is rarely useful in psoriasis. Indeed, the disease which will stand without resentment such powerful remedies as chrysarobin and pure tar often seems intolerant of even small amounts of sulphur. In very widespread cases where large areas of skin are inflamed, infiltrated and tending to crack, what we may call the specific treatment of psoriasis must be given up, and attention must be directed to soothing the skin by milder remedies. Hebra's ointment or zinc ointment should be spread on freely, and no more active treatment should be thought of until all these additional signs of irritation have disappeared.

PITYRIASIS.

(*πιτυριον*—*bran*).

Pityriasis means scaliness, and nothing more. Its occurrence indicates no relationship between the diseases so entitled, and the use of the simple term is merely a pedantic method of concealing ignorance.

PITYRIASIS ROSEA.

This, though a comparatively rare disease, occurs more frequently than is generally supposed, for cases are often overlooked or incorrectly diagnosed. A typical case runs a very clear and definite course. Without any previous symptoms, there appears on the trunk, somewhere in the region of the waist, as the "herald" of the disease, a reddish yellow spot which expands into a patch, circular in form, very little elevated, with a rosy red border and a yellow centre. The shade of yellow which forms the centre is sometimes described as fawn coloured; frequently it very closely resembles the colour of chamois leather. Often enough this patch is entirely overlooked, and the first the patient knows of the disease is about a week later, when the whole trunk is covered with a profuse eruption of spots similar in nature though smaller in size than the original one. All of them do not expand into circles; many remain as spots, and to this variety of the disease the name Pityriasis rosea *maculata* (macula) is applied. When they do expand into circles the adjective *circinata* is employed instead. Plate XI shows all the stages of the disease—the large "herald" patch and smaller circinate and macular lesions. Too much stress must not be placed on the identification of the "herald" patch; in the majority of cases



PITYRIASIS ROSEA.

it is not discoverable. The eruption is almost limited to the trunk. A few spots may be found about the shoulders, and a few on the thighs, but it is rare on the face and on the distal ends of the limbs, though in a case recently under my care the eruption was limited to them.

In spite of the name there is not often much scaliness. If a circular patch is scratched with the finger nail a certain amount of fine scaling may be produced, but it is rarely evident without this. After a duration of from five to eight weeks the eruption gradually disappears.

DIAGNOSIS.—The diseases with which this may be confounded are syphilis, seborrhœic eczema, and ringworm. A confusion with the first is the most frequent error, and as the disease disappears spontaneously in about six weeks, this is put down to the effect of the mercury which has probably been administered. It is needless to say that none of the other signs of that disease are present. There are no enlarged glands, no affection of the throat, and, further, the eruption itself is flatter and differs in colour from the eruption of syphilis.

From ringworm, with which it was long confused by the Vienna school, it may be distinguished by the fact that there are no vesicles on the advancing border, by the sudden appearance of the eruption, and, negatively, by the absence of any fungus.

From seborrhœic eczema it differs firstly in its distribution. While that disease is common enough on the trunk, it is also found on the scalp, face and limbs. Further, the *border* in seborrhœic eczema is *more raised*, and there is a much *greater tendency to moisture and to scaling* than there is in this disease.

The cause of the disease is unknown. No organisms have been found which could be definitely associated with it, and there is no similarity in the cases which it attacks, such as employment, age, sex, or the like. When a section is examined the possibilities of scaling are evident. Thus, in the drawing (Fig. 18) the superficial layers of the horny layer have been partly detached in preparation, and are seen separated from the skin, although there was no evidence of this when the spot was removed from the patient. There are signs of slight proliferation of the epithelium, while the corium is rather more cellular than normal. The disease gives rise to hardly any discomfort; a very mild degree of itching is experienced by some patients, and this frequent

absence of itching no doubt contributes to its confusion with syphilis.

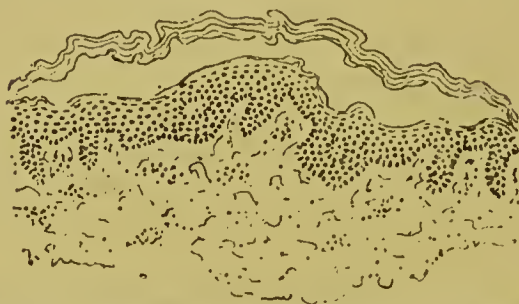


Fig. 18. Pityriasis rosea. A little increase of the cellular layer of the epidermis, no granular layer. The increased horny layer which was closely adherent is detached in preparation. A few leucocytes in the corium; $\times 50$.

TREATMENT.—It is a common view that the treatment of this disease is in general not very satisfactory. That view I have long taught and until recently shared. I have, however, learned from Dr. Allan Jamieson that it is erroneous, and that pityriasis rosea is more rapidly amenable to treatment than the majority of skin diseases. The patient should be soaked daily for half an hour in a bath to which two or three teaspoonfuls of Condyl's fluid have been added, after which salicylic vaseline (3-5 per cent.) is freely applied to the skin. In twenty-four hours there are usually marked signs of improvement, and in a week most cases are well.

PITYRIASIS RUBRA.

(*Dermatitis exfoliativa*.)

"Red scaliness" is a term which is applicable to a good many conditions, and the definition of Pityriasis rubra varies in its extent according to the observer. Some only include under this heading the cases which correspond to the type described by Hebra, while others are wider in their definition and include cases which succeed to wide-spread attacks of other skin diseases, and even cases which most regard as clearly eczema. The discussion of the fine distinctions would be out of place in such a work as the present, and while admitting that there are likely enough distinctions between the varieties, I propose to discuss them all together.

It may be taken then that the disease may arise either spontaneously or may succeed to one of several skin diseases. The commonest is psoriasis, but it may follow eczema, lichen, dermatitis herpetiformis, or erythema multiforme, and appar-

ently in some mysterious way develop out of these. The form of Psoriasis which it most frequently follows is the moister variety, the more eczematous one, and such cases are sometimes known as Pityriasis rubra seborrhoica. They are often directly traceable to the too free and too long continued use of Chrysarobin. Even weak ointments of chrysarobin should never be continued for more than a month, and not so long unless under direct supervision. Usually the result is the transformation of the dry into a moist, weeping eruption, but in exceptional cases "pityriasis rubra seborrhoica" develops. The disease is characterised, as its name indicates, by intense redness and abundant desquamation, but perhaps its most prominent characteristic is a negative one, namely, the absence of infiltration and thickening of the skin. Although the patient looks like a boiled lobster, although shovelfuls of scales may be removed from his bed in the morning, the skin *feels* but little affected. Commencing, when it does commence independently, as a number of small spots, the disease rapidly spreads until the whole surface of the body is affected. In connexion with its development from any of the diseases mentioned, while frequently the history points to a misuse of chrysarobin or some other irritating drug, cases occur where in the course of a night the disease undergoes a complete transformation, and the patient who at one visit was suffering from psoriasis is at the next found to be the subject of a typical pityriasis rubra. The *diagnosis* should not be difficult, but it is so easy in the presence of redness and scaling to ignore the negative character of absence of infiltration and to call a case exfoliative dermatitis that stress must be laid upon this point. A scaling eczema with exudation is quite another disease. The fluid which is occasionally present in cases of pityriasis rubra is not exudation but probably merely sweat; it does not stiffen linen. Further, though it may be very widespread, eczema is rarely universal, while this disease, after it is fully developed, usually is.

The *cause* is unknown. Its sudden appearance in the course of another malady has led some to place its origin in the central nervous system. But two fatal cases of Crocker's, in which the nervous system was carefully examined by Dr. Mott, showed no change whatever. Others regard it as of parasitic origin, but though organisms may be found in the scales, it has not been possible to relate them definitely to the disease.

A number of cases have arisen after exposure to cold, so that this is evidently a factor in their development, though the time has gone by when cold is looked on as the cause of a disease. Crocker holds that there is a relation between rheumatism and gout and this disease, these having been present in a number of his cases ; while Jadassohn has found tuberculosis in a large proportion of his. The fact that these are not invariably present, shows that they have at most only a secondary influence on the origin of the disease. Shock and a number of these other causes about which one can prove nothing, have been instanced as influencing an attack, but candidly we know nothing of the cause of the disease.

PROGNOSIS.—This is bad. Many cases die, some directly from exhaustion, others from some intercurrent disease to which weakness has predisposed, and those who recover are very liable to have a second, third, and final attack of their malady. The chronic hyperæmic condition of the skin renders the patient very susceptible to cold, and pneumonia is frequently the cause of the fatal issue.

TREATMENT.—The first indication for treatment is derived from the history of the development of the disease. Having seen how cases develop from over-treated psoriasis, it is very clear that only mild remedies should be used. The patient should, during the acute stage, remain in bed in a warm room, and every precaution be taken against cold. The applications should be of the mildest. Hebra's ointment, weak tar lotions, or weak carbolised oil may be tried ; according to Morris, mercurial applications aggravate the disease, and should never be employed. Internally, probably the most useful medicine is antimony, small doses of the wine being given at intervals. Arsenic should never be given until the case has become distinctly chronic, and even then only if it show some signs of improvement. If there is any active inflammation it is almost sure to aggravate the condition. The diet should be light, but nutritious, and cod-liver oil is generally useful. Alcohol, and any foods which may cause flushing of the skin should be absolutely forbidden. Baths should be tempered by the addition of bran or starch (page 15). When the acute stage is past, and the patient insists on going about, special precautions against cold must be constantly taken.

PITYRIASIS RUBRA PILARIS.

Red scaliness around a hair. The mere mention of this disease in dermatological circles always arouses the dispute as to whether the disease is or is not identical with Hebra's Lichen ruber acuminatus. The opinion of many seems to be that the two diseases are the same, though there are still more who maintain the distinction, and it must be admitted that it is an exceedingly difficult thing—without the assistance of Mr. Stead and his spooks—to determine what a person who has been several years dead, recognised under any particular name. The disease is rare, and consequently the opportunity of settling the question does not often arise. Only one case has come under my observation in this country, and the opportunity of observing it I owe to my friend Dr. Morton, of Glasgow. In this patient, a boy aged about twenty-one, the disease was preceded by an illness so severe as to lead to his being treated for some time as a case of typhoid fever. The eruption developed later, and when I saw him he showed two of the forms characteristic of the disease. On the arms there were numerous follicular papules apparently surrounding the hair follicles. They were about the size of a millet seed, and were of a yellowish brown colour. They were not markedly acuminate, but rather flattened on their apices, and their most prominent characteristic was their colour. On the chest the spots had coalesced to form what is described as erythrodermia, or the red-skinned stage, and large tracts were affected, though in most places the origin from the union of papules could easily enough be made out. There is one aid to the diagnosis of this rare disease which is almost invariably present, viz., the appearance on the backs of the first and second phalanges of the fingers of blackened spots around the hair follicles, which give the skin a rough, file-like, feeling. This description does not accord altogether with that given in some books, where the acuminate character is dwelt on. There the papules are described as small, red, dry and harsh, and each as surmounted by a single atrophied hair. The feeling and appearance of the skin is compared to that of a newly-plucked fowl. On the scalp and face the papular character is not so marked, and in these situations the disease closely resembles ordinary seborrhœa. Mr. Morris states that the general health is never affected, but in Dr. Morton's case, which was also seen by Prof. M'Call Anderson and Dr. Jamieson, the patient was seriously ill. The disease may last

for years. On the whole, judging from the case referred to, and from one or two others seen abroad, I am rather inclined to agree with those who maintain the distinction between the two diseases, otherwise it is difficult to reconcile Mr. Morris's statement that arsenic is contra-indicated, with Hebra's, that all his patients died until he commenced to use arsenic. Pilocarpine or jaborandi may be given to promote sweating, and weak preparations of oil of cade or pyrogallol may be applied locally. If these produce irritation they must be stopped and soothing remedies applied.

ICHTHYOSIS.

(*ιχθύς*—*a fish*.)

Ichthyosis, or the fish-skin disease, though fortunately rarely seen in its severer forms, is in the milder ones not uncommon. The numerous named varieties are better considered as simply different manifestations of the one complaint. To this, however, an exception must be made, for the disease known as Ichthyosis hystrix, in which the morbid condition is found, say on one limb, or apparently following the course of a nerve round the body, is much more correctly regarded as a variety of nævus than as a modification of ichthyosis. The different adjectives added to the name—*I. serpentina*, *sauroderma* (crocodile)—are simply descriptive of an apparent resemblance to certain animals.

The mildest variety goes by the name of Xeroderma (dry skin). In this form the patient is only conscious, in the colder months, of a dryness of the skin, and a slight tendency to scaliness at certain situations—the knees, elbows, and axillary borders. The secretion of sweat is greatly diminished; many patients declare that they do not sweat at all. As the disease spreads it tends to affect the extensor surfaces, and these are occasionally the seats of a moist eruption, which it is, however, an exaggeration of terms to call eczema. From this mild variety there are all degrees up to the severest cases, where the patient is covered almost entirely by large horny masses, and the skin resembles rather that of a reptile than of a human being. Plate XII illustrates the more commonly occurring form of the disease. On the back of the arms the partitioning of the skin into little lozenge-shaped areas like the scales of a fish is fairly well shown, while as we approach the axillæ the disease is more marked, and the little blackened horny-



like masses are prominent. In the severer forms these increase in size and length, and may be as much as a quarter of an inch in diameter and three-quarters of an inch long.

Even in the severest cases certain regions are usually spared. The palms and soles are very rarely affected at all. The face never shows such marked horny excrescences as does the rest of the body, although in the mildest cases there is often a good deal of moist catarrh on the forehead, and the flexures at the elbows and knees are long spared. In the milder varieties there is little beyond a roughness, but as the scales accumulate they become black, not from dirt but from excessive cornification, in which the tendency always is for blackening to occur. The same phenomenon is seen in the blackening of the head of the comedo.

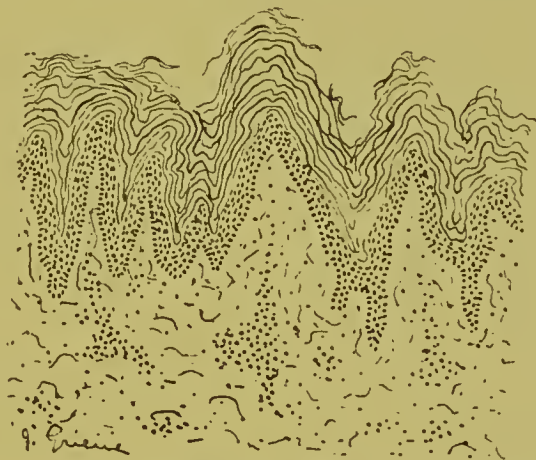


Fig. 10. Ichthyosis. Horny layer increased, rete thin, "Alpine" papillæ, some cellularity of the corium; $\times 50$.

The disease is usually described as congenital, but it rarely appears before the end of the first year, and often well on in the second. Cases have been described where it has developed in adults, but these are very exceptional. Confusion has resulted from its being erroneously connected with what is known as congenital ichthyosis, the disease figured in many books as the "Harlequin" fœtus. Although both diseases show excessive cornification as a prominent feature, there are certain differences so marked as to make it unlikely that they are alike. For example, in hyperkeratosis congenitalis, as it should be called, the palms and soles are invariably affected, while in ichthyosis they are the last regions attacked. Heredity is, however, undoubtedly a factor in ichthyosis, and

the disease shares with xeroderma pigmentosum the peculiarity that it shows itself usually only in the one sex in a family. There is no evident preference for one over the other, but in one family most of the boys may be affected, and in another all the girls, the opposite sex remaining perfectly free.

The cause is unknown. Unna places it among the infectious inflammations, and it is interesting to know in this connexion that in Styria it is said to be as common as is psoriasis in this country. No organism, however, has been found. On examining a section of the skin, the changes are so striking that one has no difficulty in recognising it at a glance. The epidermis is thin, and the papillæ have a peculiarly Alpine arrangement, reminding one of those pictures of the relative heights of the mountains of the world which used to appear at the bottom of maps (Fig. 19). Although the sweat and sebaceous secretions are diminished, both sets of glands are found on examining the skin. The subcutaneous fat is notably diminished. The amount of irritation in the skin, as shown by the presence of leucocytes and proliferative connective tissue cells, depends on the stage of the disease. If the piece examined has been removed during a quiescent period, they are practically no more than normal, while if removed during an attack of "eczema," they are of course numerous.

DIAGNOSIS.—This, in an advanced stage, is very easy. No one could possibly mistake a well-marked case. Those difficult to diagnose are the slight ones, especially where, perhaps, a moist catarrh has directed one's attention away from a disease so associated with dryness as ichthyosis. There are, however, certain peculiarities about this moist catarrh which should arouse the suspicion that one is not dealing with an ordinary case of eczema. The distribution is almost always on the extensor surfaces, and if the diagnosis is not made it will generally be found that treatment is by no means so successful as it would have been had the case been eczema. In every patient with a moist catarrh on the extensor surfaces, especially if there is a history of its recurrence winter after winter, the regions where ichthyosis is most apt to be developed should be examined. The knees and elbows, especially the former, are in so many people the seat of a certain amount of scaling, that most information is to be derived from the examination of the

axillary borders. Either anteriorly or posteriorly there will be found here some evidence of the disease. Prurigo, which also attacks the extensor surfaces, which is occasionally moist, and which is also a disease dating far back in infancy, is so rare in this country that it only exceptionally need be considered. The nutmeg-grater character of the skin, the enlargement of the glands, and the greater itching, combined of course with the absence of any signs of ichthyosis, should enable one easily to diagnose prurigo. From psoriasis, which also affects the elbows and knees, there should be no difficulty in diagnosis. Sometimes, it is true, the scales of psoriasis do take on a greenish colour, but they are heaped up in masses, and there is never the areated, mosaic arrangement which is so constantly seen in ichthyosis.

PROGNOSIS.—The prognosis of any given case is difficult to lay down. The danger to life is practically nil, the prospects of improvement are excellent, but the hope of complete recovery is by no means good.

TREATMENT.—The main object of treatment is to supply to the skin the fat in which it is so markedly deficient, and if a sufferer will take a daily bath, and grease himself regularly with lanolin, vaseline or some similar preparation, he can keep himself in a condition of comparative comfort. While this inunction of fat is followed by great amelioration of the symptoms, it cannot, of course, be expected to do much to cure the disease, especially if we regard it as an infectious inflammation. Therefore various drugs of an antiseptic nature should be incorporated with the ointment base. The most generally used of these drugs are sulphur, ichthyol, β -naphthol, resorcin, and salicylic acid. One or other of these may be combined in a proportion of 5 to 10 per cent. with the ointment, and one usually has, unfortunately, ample time to compare the relative value of the different preparations. Internally, pilocarpine is of undoubted value. It may be injected subcutaneously, or the tincture or syrup of jaborandi may be given by the mouth. Arsenic and cod-liver oil are also recommended, and the latter of these, *by increasing the subcutaneous fat*, is bound to be useful in most cases.

An undoubted influence on ichthyosis is exercised by the thyroid substance. While it is not a remedy to be recommended for use in a disease such as psoriasis, where one has numberless remedies of well-approved value, in this

complaint, which is so chronic and so obstinate in its reaction to treatment, one is justified in using with caution remedies which do carry with them a certain amount of danger. The patient's susceptibility should be carefully tested, and the dose always kept well below that which would induce toxic symptoms. *No patient should ever continue with the use of thyroid tablets except under medical supervision.* The amount to be taken depends entirely on the individual. With some, 1 five-grain tabloid a day is sufficient, while others can take without harm 5, 7, 10, or more. To those to whom their place of residence is a mere matter of choice, a stay in some warm, moist climate should be recommended, for residence in a cold, exposed, windy district is certain to lead to constant attacks of moist catarrh, with its accompanying discomforts.

Ichthyosis hystrix, which, as already stated, is probably an entirely different condition, must be treated by the removal of the horny masses, and the destruction of the base from which they grow. This may sometimes be accomplished successfully by the use of salicylic plaster, but in obstinate cases it may be necessary to destroy the line of disease with the thermo-cautery.

INFLAMMATIONS OF THE DEEP EPIDERMIS (GLANDS AND FOLLICLES).

ACNE.

(ἄκνη, *quasi* ἀκμή—a point, or the bloom of anything.)

Probably this term was applied to the disease either by reason of its association with adolescence, or because of the pointed character of the spots. The essence of the disease is the plugging of the mouths of the sebaceous follicles with a comedo,* familiarly known as a "*black-head*." The comedo itself is a small oat-shaped body, which acts after the manner of a cork; the long coil of yellow material which can be expressed from the gland is retained secretion and not a part of the comedo proper. While some of the comedones may remain as such, others lead to irritation and softening, and the distended gland becomes converted into a pustule, at the apex

* Latin *comedo*, to eat up. The comedo was supposed to be a species of worm.

of which the comedo is still evident. In other cases the suppuration takes place deeper, and considerable abscesses are formed in the depth of the skin, often from the union of several adjacent follicles. In others again there is a large amount of connective tissue thickening, and to this form the name *Acne indurata* is applied.

The disease is practically confined to the period of adolescence, being most common between the ages of sixteen and six-and-twenty. After thirty it is rare, so much so that the appearance of a disease simulating acne after that age should always lead to careful inquiry as to whether the patient has not been taking some drug, especially iodides or bromides.

It affects both sexes equally, though perhaps the severest cases are seen in the male. The parts of the body affected are the face, the chest, and the back. Exceptionally it spreads further down the trunk and to the limbs, but certainly 90 per cent. of the cases are confined to the regions mentioned. Patients with acne have always a skin which is greasy, anæmic, and flabby from want of tone in the cutaneous muscles.

The cause of the disease has not yet been definitely made out. Some associate it with the active development at that period of life, the greater activity in the skin, and the new development of hair, and in answer to the argument that the disease is as common in girls as in boys, Pye-Smith is driven to the explanation that "though women have no beards their fathers had, and that secondary sexual characters are more or less transmissible to both sexes" In his "Histopathology" Unna refers to a bacillus which he found in the comedones, and which he regards as being in all probability the cause of the disease. In distinction from other organisms, which are found only towards the surface, this bacillus is found deep down in the comedo. He further claims for it that the suppuration—which it has been customary to attribute to staphylococci accidentally inoculated—is really due to the action of this organism which, with proper precautions, may be found alone in unopened abscesses. The matter has been taken further by Sabouraud, whose views are certainly at present ahead of those of other investigators, for he claims that one and the same bacillus is the cause of acne, of seborrhœa, and of alopecia areata. His bacillus is evidently the same which Unna had previously described, and thus we have the two most active workers in the German and French schools agreed

that acne is due to a definite organism. There are many facts supporting the probability of the infective nature of acne. While in such a common disease evidence of a direct infection is of course very difficult to obtain, we see not infrequently evidence of auto-infection. The treatment by massage, if carried out in an unskilled manner, is exceedingly apt to spread the disease, the organisms being probably massaged out of one follicle into another. At all events, so far as our present knowledge goes, the germ theory at least requires a less roundabout explanation than does the developmental one.

When a spot is examined microscopically we find the mouth of the gland plugged by the comedo. This little oat-shaped mass is composed of concentrically arranged horny layers, more closely packed at the upper part and showing there the black colour which characterises the extreme degree of cornification. The same is seen in advanced cases of ichthyosis and in cutaneous horns, and it is not, as has often been stated, due to dirt. Beneath, the gland is filled with broken-down sebaceous material, all trace of glandular epithelium is usually lost, and the cavity is lined with a horny layer resembling that of the skin (Fig. 20). The skin in general has a thicker

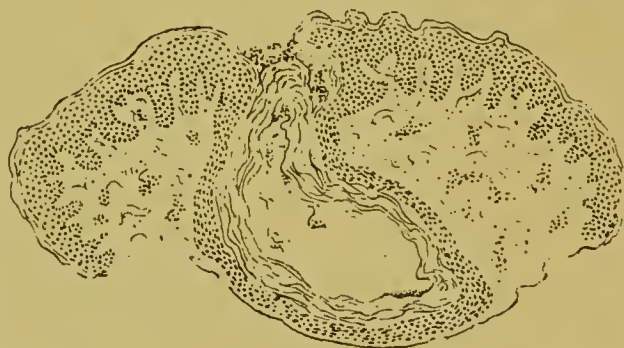


Fig. 20. Section of an early lesion. The orifice of the gland is plugged by closely-packed layers of horny matter—the comedo. All sebaceous structure is gone and the gland is lined by horny layer. Some softer material in the centre has dropped out in preparation; $\times 50$.

horny layer than normal, is in fact in a condition of hyperkeratosis. When the disease has reached the pustular stage the effects are wider spread, the wall has usually broken down at some part, and the abscess cavity involves the surrounding tissues to a greater or less extent.

The natural course of the disease is to steady progress, the comedones increasing slowly in number, while the suppurative change in them depends to a considerable extent upon the



M^rFarlane & Erskine, Edin^r

ACNE VULGARIS (Indurata).

health of the individual. Often enough, however, persons in the most vigorous health have their faces disfigured by a profuse eruption of pustules.

DIAGNOSIS.—The presence of pustules on the face is not enough to found a diagnosis upon. The essential element of the disease is the comedo; unless that is evident the disease is not acne.

PROGNOSIS.—Almost all cases are curable by time, and if a patient is willing to wait until he enters the thirties there is no occasion to do anything. Unfortunately, though, "*tempus varos curat*," the scars left in the process are often almost as disfiguring as the disease, and on the chest the acne scar is probably in a great many cases the starting point of keloid.

Comparatively few persons are willing to leave their cases to nature, and dealing with the prognosis of such cases we find that a number of factors come into consideration. One of the most important is the general condition of the patient; if in bad hygienic condition and insufficiently fed, his acne is likely to continue. Various abuses, too, if indulged in, interfere with improvement, but the great element in prognosis is the diligence with which the patient carries out treatment. The main factors then in the cure of a case are time, health, and perseverance.

TREATMENT.—In considering treatment it is well to regard four factors which are present in the skin of the patient. We have to deal with hyperkeratosis, anæmia, flaccidity of the cutaneous muscles, and an excessive amount of oily secretion. With regard to general treatment it is evident enough that these are all conditions which can be improved by general tonic treatment. The patient should take plenty of exercise in the open air, plain food—all greasy articles of diet being avoided—and, in short, get into as good condition as possible. In girls constipation and anæmia are very frequently present, and these must be treated.

There is no drug which has any specific influence on acne with the one exception, that when there is much induration around the individual lesions, *sulphide of calcium* given in pills, $\frac{1}{8}$ th of a grain three or four times a day, has in some cases an influence in promoting either absorption or increased rapidity of softening of the morbid products.

The discovery of an organism as a probable cause of the disease has, of course, stimulated the belief in the efficacy of local treatment. Again bearing in mind the factors of hyper-

keratosis, excessive secretion, anæmia, and flaccidity of muscles, we find that there is one treatment which has an influence on all four. That consists in the vigorous application of soap, the alkali of which removes the excessive oily secretion and the thickened horny layer, while the friction with which it is applied promotes hyperæmia and stimulates the flaccid muscles. Soap alone, combined with friction, will cure a great many cases, but it is usual to associate with it some drug which shall assist in its action. Long before organisms were even thought of, **sulphur** had established itself as of value in the treatment of acne, and sulphur combined with some form of soap is probably the most efficacious treatment. With regard to the form of soap with which it should be combined, opinions differ very much. Some consider that the alkali in soap is responsible for many disagreeable effects, and recommend that an over-fatty soap should be employed. Others again use the soap liniment of the Pharmacopœia, while others use Hebra's soap spirit, a strongly alkaline preparation. Seeing we have to deal with a skin rich in fat, and that it is the alkali of the soap which removes that, over fatty soap, theoretically, is of little value. But any soap, no matter how fatty, when combined with water gives off some alkali, and the over-fatty ones are probably simply less active than others in the same direction. It will probably conduce to clearness if the methods of treating cases of different severity are described in detail.

The patient whose skin is dotted with comedones, and in whom suppuration is at a minimum, should every night steam the face over hot water, and bathe it for ten minutes. With a suitable expressor the comedones should be extracted. The common habit of squeezing them out with the nails, or the even more objectionable one of using a watch-key, is apt to

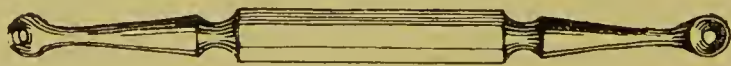


Fig. 21.

do more harm than good. The watch-key method, especially, is exceedingly painful, bruises the skin to which it is applied, and, by forming a *locus minoris resistentiæ*, hastens the development of the pustule which it was intended to prevent. Everyone has his favourite form of comedo-extractor, and the annexed diagram (Fig. 21) shows one which at all events has

certain advantages. It can be applied accurately over the comedo, which remains in sight, and the edges being carefully rounded there is little risk of damaging the tissues. The comedo should be expressed by a shaking movement and not by pure force. When all the prominent comedones have been removed the face should be rubbed with some sulphur-containing soap. One of the most satisfactory is sulphur, camphor, and Peru balsam soap; it was originally introduced by Eichhoff, but very satisfactory soaps are now made in this country. With a shaving brush an abundant lather is produced, and this is rubbed for a few minutes into the skin. For the first few days it is wiped off with a damp cloth, but as the skin becomes habituated to its use it may be rubbed in over an increasingly longer time until eventually it is rubbed in entirely and there is none to wipe off. Few skins can stand the continuous use of this soap, and it is desirable that one night's rest a week be taken, on which night the skin should be simply anointed with vaseline.

If the comedones are very numerous and the skin, as usual in such cases, is tolerant, other mechanical means of removing them are handier than the expressor. A soap combined with sand is used occasionally, the mechanical effect of which is to rub away the upper portions of the comedones and thus to facilitate the action of the medicated soap. For well-to-do patients marble sand soap may be ordered, while for dispensary practice the much-advertised article which "won't wash clothes" is most efficacious. Once a week is often enough to use these sand soaps. Vlemmingkx's solution is another useful method of applying sulphur: 10 parts of sulphur, 20 of quicklime, and 200 of water are boiled down to 120 parts in an iron vessel. At first it is necessary to dilute this freely (1-5), and it is then simply dabbed on at night after bathing the face. The strength is gradually increased as tolerance is established until the pure solution is used.

Where pustules have developed, these should be opened and cleansed. Some apply to their interior strong carbolic acid, but the result of that is to cause quite a considerable slough which requires some time for its removal. As a general rule, if the pustules are properly opened and squeezed out, they do not tend to re-form. The presence of a considerable number of pustules does not altogether interdict the soap treatment. While it somewhat increases the discomfort, the general benefit is so great that that may be put up with.

Where, however, the parts are very much inflamed and the pustules very numerous, sulphur may be applied in lotion along with calamine instead of in the more active form of soap. The following is the prescription used in the Edinburgh Royal Infirmary :—

R	Sulph. Præcip.	ʒj
	Calaminæ	ʒij
	Zinci Oxidi	ʒj
	Glycerini	ʒj
	Aquæ Destill. ad	ʒiv

Sig.—Shake and paint on with a brush.

Under this more soothing treatment the evidences of irritation will diminish, and the soap treatment may then be resorted to. If the pustules are very numerous and large, so much so as to amount to cutaneous abscesses, they must have a more thorough treatment, being freely opened and kept open until the cavities close up. During this treatment the face should be bathed at intervals with an antiseptic lotion, either boracic acid or perchloride of mercury, in order to diminish the risk of further inoculation of the raw surfaces from without.

A method of treatment which has certain advantages, but which has not attained much popularity in this country, is “shelling” the skin with resorcin. Equal parts of resorcin and Unna’s zinc paste are applied, thickly spread, to the skin twice daily for three or four days. At the end of this period some soothing ointment is applied, and in a day or two more the skin peels off in large flakes, bringing with it the hyperkeratotic horny layer and a large number of the comedones. The method involves confinement to the house, and in that respect is disadvantageous, but it does more in a week than probably two months of the milder treatment will accomplish.

As already indicated, the treatment must be prolonged and persevered in. Even after all signs of the disease have disappeared the patient should go through the soap treatment once a week. In view of Sabouraud’s theory that seborrhœa of the scalp is intimately associated with acne, an observation which undoubtedly has a certain amount of clinical support, the scalp should be examined for seborrhœa, and, if found, it should be treated appropriately.

Acne Varioliformis.—This is a rare and much severer disease than acne vulgaris. It most commonly occurs on the face and scalp, and commences as a firm, reddish papule, not as a

comedo. This becomes surmounted by a pustule, and then a considerable necrosis takes place in the centre. This is thrown off, and the resulting scar closely resembles that of variola.

Some look on all cases as syphilitic in origin, but though this is frequently the case, it is not invariably so.

TREATMENT.—Iodide of potash is generally useful; cod-liver oil and iron are sometimes of value. Locally, some mild antiseptic ointment should be applied.

SYCOSIS.

(σῦκος—*a fig.**)

Although the comparison may not be strictly correct, sycosis is best understood by the student as an acne of the beard regions. It consists in the appearance in that region of pustules situated in the hair follicles. In the acne region the hair follicle is a mere appendix of the sebaceous gland; in the beard region the relationship is reversed. The term is applied a little loosely, even when we have clearly removed from its scope the old sycosis menti or ringworm of the beard.

All affections of that region are liable to lead to pustules, and in order properly to differentiate sycosis from the others it will be useful to consider them for a moment together. The four common affections of that region are sycosis, ringworm, eczema, and impetigo contagiosa. Impetigo contagiosa is most easily separated from the others; it is more rapid in its development, and the character of the crusts produced is usually very typical. When the crusts are removed the skin is seen to be very little reddened beneath; there is, however, more moisture than when the disease attacks the non-hairy skin. In the other three diseases pustules around the hair follicles are apt to form, and in separating them from each other one has to lay stress upon what is the *prominent* feature. Pustules are common in ringworm when the affection is derived from one of the lower animals, but even in such cases there is almost invariably a character which enables the diagnosis to be made at once. That character is *the presence of deep hard nodules* scattered here and there over the

* There is not much resemblance traceable to the dried fig familiar in this country, but the pink centre of a fresh ripe fig with the yellowish-white seeds dotted through it is somewhat suggested by the reddened skin and the yellow pustules of a typical case of the disease.

affected surface, the hair over which usually comes out much more easily than that on the surrounding skin. The real difficulty in separation lies with the two remaining ones, and more than one dermatologist of eminence refuses to recognise any distinction between them. The difference is that in sycosis the pustules around the hair follicles are the predominant lesion, while in eczema they are secondary to the general inflammation of the skin. The pustules in sycosis are much more numerous and much more distinctly in relation to the hair follicles than are those of eczema. The difficulties of diagnosis are increased by the fact that there is almost invariably in sycosis a certain amount of dermatitis and reddening of the intervening skin, and in some cases it is indeed impossible to draw a distinction.

Of the two, sycosis is the more serious condition. The infection is deeper, and it is certainly more difficult to cure. The disease is most common upon the cheeks, where the number of pustules, each surrounding a hair, may be very great. It is less common on the moustache region. That portion of the upper lip immediately below the nostrils is often the seat of an affection which is sometimes confused with sycosis. It is really, however, a dermatitis brought about and kept up by the irritating discharge from a nasal catarrh, and no amount of local treatment will do any real good until the catarrh is cured. Although the disease comes within the sphere of the rhinologist many cases are easily enough cured by careful and frequent syringing of the nostrils with weak boric acid lotion (grs. iv-5j).

Bacteria are certainly responsible for sycosis. The sheath of the extracted hair and the pus which follows its extraction teem with micrococci, and proof of their causal relationship with the disease can easily enough be got by anyone who chooses to make the experiment. A rarer form of the disease is the bacillogenic sycosis described by Mibelli.

TREATMENT.—The disease is always chronic and has no natural tendency to disappear. In treating it the first matter for consideration is the question of shaving. On this point there is much difference of opinion, some maintaining that shaving tends to spread the infection and thus to aggravate the disease, and that the irritation of the razor is also injurious. On the other hand the bulk of experience seems to indicate that the facilities for treatment given by shaving more than counter-balance these disadvantages. A half-way house may

be found, if desirable, by clipping the beard. The soap treatment is not so eminently applicable here as in acne, often appearing to irritate the skin, although it is of great value in the later stages. Even in the earlier ones it is desirable that the patient should shave with some antiseptic soap, the sulphur one already referred to under acne being suitable. The hairs in the centre of the pustule should be extracted *before* shaving. This removes a certain amount of the contagion and permits of the access of the antiseptic used, to those organisms which remain in the empty follicle. The case may then be treated by various antiseptic ointments, oleate of mercury, ammoniate of mercury, sulphur, or salicylic acid; indeed, there is practically no limit to the various antiseptics which may be used with advantage in different cases.

There is, however, another method of treatment. If a case is very obstinate, counter-irritation may be applied, with the object of attacking the organisms from within. In many chronic cases the application of perchloride of mercury in spirit (1-500) is followed by great improvement; it often blisters the part. Other counter-irritants may be used, but this one has much evidence in its favour. When the disease is nearly well patients are often desirous of re-growing their beard; this is a dangerous experiment. Often, perhaps after two years of treatment, a sycosis has been subdued and the patient has commenced to grow his beard, with the result that the disease returns with all its old intensity. To be safe, the hair should not be allowed to grow until quite a year *after all trace* of the disease has disappeared.

FAVUS (Honeycomb Ringworm).

(*Favus*—a *honeycomb*.)

Favus is a disease of the skin, due to the growth of a fungus, and the opportunities of studying it are numerous in Scotland. Like ringworm, it may affect any part of the skin, and even the mucous membranes, but, like it, it is much more common upon the scalp. Its most striking feature is the production on the surface, of rounded, cup-shaped crusts, or *scutula*, but it may also give rise to a moist dermatitis with vesicles, not unlike *Tinea circinata*. Plate XIV shows this moist dermatitis and one or two scutula. The scalp was severely affected. The fungus which causes the disease was described in 1849, and was named after its discoverer the

Achorion Schönleinii. This fungus differs from that of the more familiar ringworm both in its method of growth and of attacking the hairs. While it is not always possible to distinguish under the microscope the one fungus from the other, there is rarely any difficulty when the whole facts of the case are known to the observer. The hairs in a patch affected by favus are not broken off, as are those of ringworm, but they differ from the normal hairs around in their stiff, lustreless appearance, and very often the shade of colour is appreciably different. When such a hair is examined under the microscope* it differs entirely from those affected by any of the varieties of ringworm. The elements of fungus in it are longer, and completely fill the interior of the hair, so as to obliterate altogether its normal structure; there is no sign of the medullary canal. If a portion of the root sheath adheres to the hair, the difference from the ringworm fungus is not so striking (Fig. 23), for here the elements are shorter

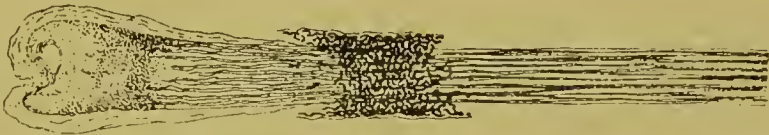


Fig. 22. Part of a hair affected by Favus. Hair comes out entire; long filaments of fungus inside the shaft; a felt of fungus in a portion of the sheath; $\times 100$.

and more approach in appearance the spores of ringworm. It is true that they are usually somewhat longer than they are broad, but this must not be taken as an absolute rule. The scutulum (see Frontispiece) is a sulphur-yellow mass of varying size, showing a depression in the centre which becomes more marked as the scutulum enlarges. This is not due, as used to be taught, to the anchoring down of the centre by a hair, but to the fact that the fungus elements of which the scutulum is almost entirely composed are more active and moist at the margin, while at the centre they are dry and closely packed together (Fig. 23). A scutulum develops when the fungus is grown in nutrient agar in a test-tube. When a scutulum is forcibly removed it is seen to occupy a depression in the skin, the surface of which is moist and in-

(*The staining method described under Ringworm is of little use in Favus, except in expert hands. The fungus in the hair sheath is easily stained, that inside the hair only with great difficulty. As a rule there is so much fungus that it is easily detected by the potash method.)

PLATE XIV.



FAVUS.

flamed. To the pressure of the hair roots between the scutulum and the skull is due the complete and permanent baldness which is so often caused by favus. The disease itself does not tend to destroy the hairs, their destruction is

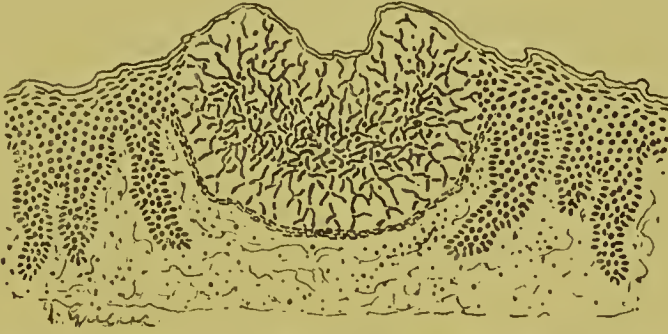


Fig. 23. Section of a Scutulum: very thin layer of epidermis beneath, thin horny layer above. The fungus elements in the centre are drier and more closely packed, hence the depression; $\times 100$.

merely mechanical. If left alone, the disease steadily advances until the entire scalp is involved, and, if scutula are allowed to form, the disease ultimately cures itself by destroying all the follicles, and producing complete and permanent baldness.

Two domestic (?) animals, the cat and the mouse, are attacked by this disease, and are in many cases responsible for spreading it. In the mouse the disease is much more serious than in the human subject, for the pressure effects of the scutula are so great that the bones of the skull are eroded, and the animal dies. The cat acquires the disease from its victim, and one could regard with equanimity this illustration of retributive justice were it not that it carries the disease on to the children of the household. In a very large number of the cases of both favus and ringworm, domestic pets are the origin of the disease. In many cases favus is transmitted from one child to another, but it is a remarkable fact that it is quite common to find one member of a family alone affected, while, unless extraordinary pains be taken, that is quite exceptional in ringworm.

DIAGNOSIS.—When scutula are formed there is no difficulty in diagnosis. In no other disease are such structures produced. The mousy, or damp straw odour which some lay such stress upon, is due to the decomposition of dead fungus, and a somewhat similar odour is often noted on the heads of neglected children. If scutula are not present, the mode of

infection of the hair should suffice for diagnosis, if not, the case may be left to itself for a few days, when the scutula will develop among the hair. On the non-hairy skin, the scutula, when they do develop, are usually more perfect than on the scalp, but in many instances they are not distinguishable, and their place is taken by a dermatitis, sometimes moist, sometimes dry and scaly. In the scales, of course, one might be fortunate enough to find the fungus elements, but, as a rule, the disease is present elsewhere in more typical form, and thus the diagnosis is simplified.

The disease sometimes attacks the nails. It may affect the nail proper, or may limit itself to the nail bed, where a scutulum develops and raises up the nail plate. As in ringworm, considering the facilities for inoculation, one is surprised at the rarity of the infection of the nails. Attempts at treatment on the same lines as in ringworm of the nails (*q.v.*) may be made, but the most thorough method is radical removal.

TREATMENT.—There are three methods of attacking the disease. Parasiticides may be employed to destroy the fungus, the skin may be irritated so as to throw it off, or it may be mechanically removed. Of course all methods involve first of all the removal of the masses of scutula, either by starch or oil poulticing. To directly parasitic remedies the fungus is less open than that of ringworm. In that disease, although the fungus is difficult to reach, down in the follicles, the way in which it erodes the hair renders the penetration of the drug into the hair more easy. Here the outside of the hair is not eroded, and antiseptics exert most of their effect on any fungus which happens to be free in the follicles or on the surface; very little can penetrate into the interior of the hair. The indirect method of setting up irritation is of more value, although in favus the new growth of hair does not seem to have that curious resistance to the attack of the fungus which it often seems to have in ringworm. The method of counter-irritation by chrysarobin is, however, a favourite one with many. Epilation is of very much more value in favus than in ringworm. The hairs do not break, but come out entire, bringing with them the swollen root sheath, often loaded with fungus, and leaving a patent follicle into which antiseptics quite easily penetrate. Indeed it may be said that the cure of any given case of favus depends on the care and thoroughness with which epilation is carried out. If the disease is recognised at its commencement it can be cured quite easily by

epilation, and the rubbing in of some drug which has the power of destroying the fungus. Personally I prefer copper salts, and since the disease occurs almost invariably in the poor, cheapness is a factor to be considered. An excellent application is an ointment composed of a drachm of sulphate of copper and an ounce of lard. It seems to have a curiously selective action on the diseased follicles, and the small scutula which for some time develop are often stained deep green. The hairs must always be extracted in the direction of their growth, otherwise the operation is very painful. Operations should commence at the borders, and should proceed systematically until all the hairs from the diseased area have been removed. The method of painting on collodion for a few days, and then forcibly removing the film is very much more painful, and not nearly so efficacious as the use of the forceps, and the barbarous pitch cap is no longer used. The time required for the cure of a severe case is at least a year, and among the pauper classes the disease too often lasts for life.

RINGWORM.

Tricophytosis (*θρίξ*—the hair, and *φυτόν*—a plant).

Ringworm is a disease of the skin caused by the implantation and growth of a fungus. The appearances produced vary so greatly on different parts of the skin, that it is desirable to describe the principal varieties in detail rather than attempt to give any general description of the disease.

No subject in dermatology has been so much investigated and discussed of recent years as ringworm, and though research has not as yet done very much to increase our powers of treatment, our knowledge of the causes and varieties of the disease is immensely greater.

More than one disease is included under the clinical term ringworm, and though clinicians are not inclined to follow the laboratory worker and admit that the number is practically indefinite, we are all more or less agreed on certain facts.

Ringworm of the Scalp, or *Tinea tonsurans*, must be divided into two diseases, according as the fungus present is the small spored (*Microsporon Audouini*), or the large (*Tricophyton megalosporon*).

It is unnecessary for the student to enter upon a study of the botanical relationships of the two fungi; both cause a disease clinically known as ringworm. The relative propor-

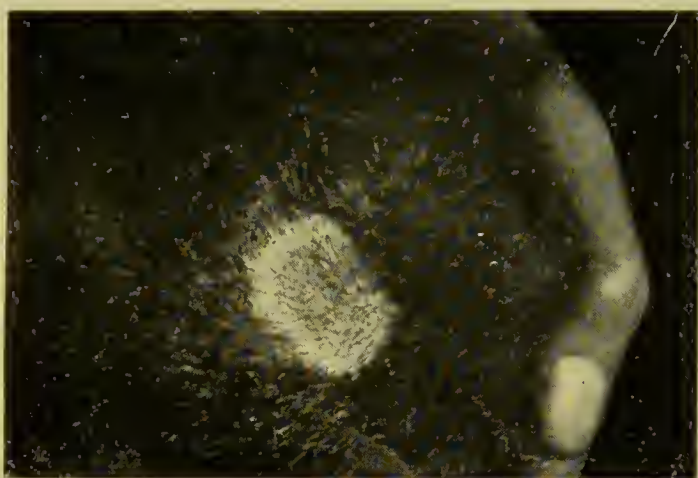
tions of the two seem to have a curious relation to the parallels of latitude. In Scotland, the enormous bulk of the cases is caused by the microsporon; in London, its proportion is between 80 and 90 per cent. (Fox and Blaxall); in Paris, 60 to 70 per cent., while in Italy nearly all the cases are caused by the trichophyton. Very recently two cases of the trichophyton variety came under my notice, but as the children had contracted the disease in Spain, I do not include them in my Scottish statistics. Too much stress has been laid on the relative size of the fungus elements in the two diseases, for after all they differ comparatively little. Their arrangement is a much sharper distinction; those of the microsporon are arranged irregularly in a *mosaic*, those of the trichophyton in the form of chaplets of beads, or *rosaries*. The terms large and small-spored have, however, provisionally established themselves, and are in general use. So long as it is clearly understood what is meant, after all a name matters little.

Ringworm of the scalp is practically restricted to childhood. The vast majority of cases commence between the ages of seven and twelve, and even if left entirely alone the disease dies out about the age of fifteen. (Ringworm of the scalp of an adult is so exceedingly rare that nothing but the most overwhelming proof should ever lead a young practitioner to diagnose it. Of perhaps a dozen cases so diagnosed which have come under my notice, only two proved to be really ringworm.)

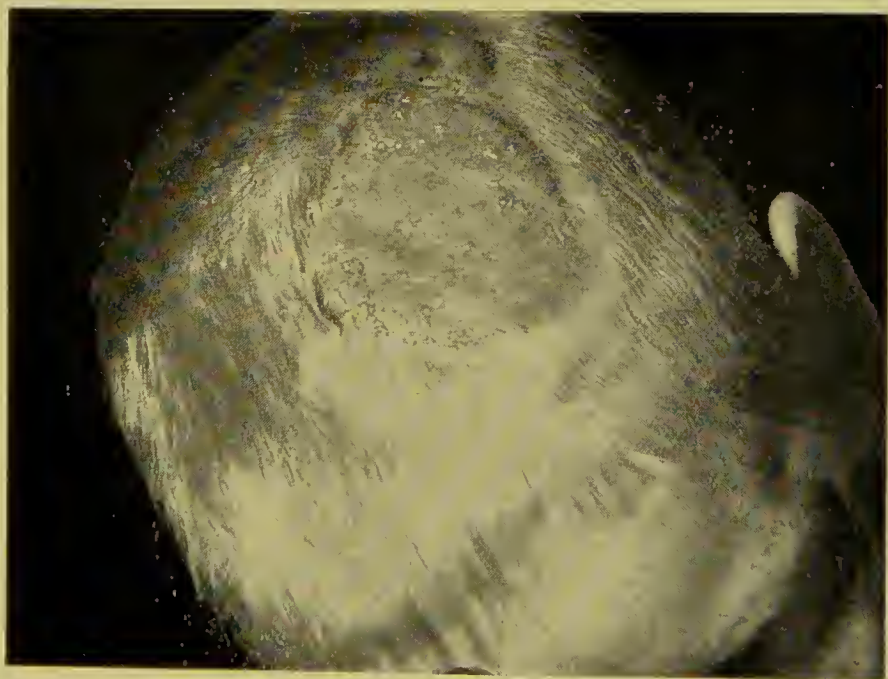
Small-spored or Mosaic Ringworm.—The first evidence of the disease is the appearance or rather the discovery, somewhere on the head, of a small rounded spot, partly denuded of hair (Plate XV). The size, of course, depends on the stage of observation. The hairs on the spot are short, dull, often *darker* than normal, and having completely lost their elasticity, are bent and twisted in all directions. If one could imagine a cow so tethered in a rich meadow that it was compelled to feed on a circular patch, the appearance that patch would have is the appearance of early, untouched ringworm. In grazing, the cow tears the grass, and the portions left are bent and twisted in all directions. The surface of the skin is covered with greyish white scales (see Frontispiece), and often a reddish ring on which the hairs are shorter than in the centre, margins the spot.

This is the most typical form of the disease, but in many cases the infection is not so localised, spots, and irregular

PLATE XV.



RINGWORM.



KERION.

patches of varied size are found, on which broken (diseased) and healthy hairs are found alongside each other. This latter form is almost as common as the circumscribed one, and from its wide dissemination it is more difficult to cure.

When a diseased hair is removed and examined under the microscope, it is found to be *sheathed* by a mosaic of fungus, the elements of which are pressed closely together, and have their individual shape altered accordingly. There

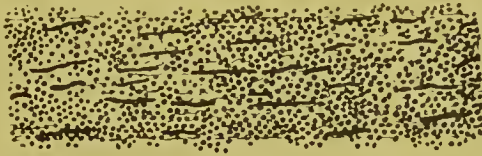


Fig. 24. Hair, affected with small-spored or "mosaic" variety of the fungus (*Microsporon Audouinii*); $\times 300$.

may be seen, here and there, filaments of fungus, usually in the interior of the hair or in a portion of loose scale. The hair substance is broken up, and the free end has often a brush-like aspect. The characters of the fungus when grown in a test-tube, are of more scientific than clinical importance, and for their description the reader is referred to the larger works and monographs.

Large-spored or Rosary Ringworm.—Two distinct clinical types are associated with this variety. In one, the hairs are broken off so short that the patch appears quite bald, and the fragments of hair appear in the follicles as black dots, whence the name of "black-dot" ringworm applied to it by Aldersmith, while the baldness has led to its being christened

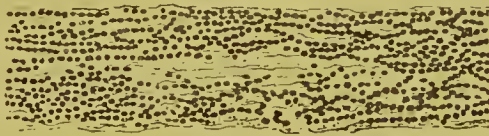


Fig. 25. Hair affected with large-spored or "rosary" variety of the fungus (*Tricophyton megalo- sporon*); $\times 300$.

by Liveing, "bald" ringworm. The stumps are so short that it is most difficult to procure one for examination, and these cases are sometimes mistaken for Alopecia areata. This form is said to be due to a sub-variety of the fungus which is distinguished as the "fragile" one. In the other variety of rosary or large-spored ringworm, where the fungus is "resistant," the hairs are, it may be, even longer than those

of the mosaic or small-spored variety. But clinically the cases differ in the fact that in this variety there is very much less scaling than in the mosaic form. Under the microscope, the fungus elements are seen to be arranged in long rows (Fig. 24). They grow both inside and outside the hair, and in the majority of instances the fungus elements are probably larger than those of the other variety.

METHOD OF EXAMINING THE HAIR.—It is essential that the hair examined should be one of the short broken ones. If no care be taken in the selection, the examination is useless. The old method of examining the hair in a drop of liquor potassæ is a satisfactory enough method for cases where microscopical examination is really unnecessary. If the hairs are obviously affected by ringworm, the caustic potash method shows the elements quite well, and from its simplicity it is largely used. If, however, there is any doubt as to the nature of a case, the method contains so many fallacies that it is of little value. Those not in the habit of constantly examining specimens are too apt to diagnose as "spores" the drops of oil emulsion which the potash causes by combining with the greasy elements of the hair, while the outlines of epidermic cells are too frequently mistaken for filaments of fungus. Cultures of the fungus can be stained quite well by Gram's method, and even simpler methods will stain the fungus, but as a rule the hair itself takes up so much of the stain that special methods are required to dislodge it. Mr. Morris has done much to popularise staining, and probably his method is the best and handiest. The hairs are first steeped in a saturated solution of gentian violet in aniline water.* If a very fine preparation is required the hairs should be previously washed in ether to remove the grease. After staining for from ten to thirty minutes† in this, the hair is transferred to Gram's solution of iodine (iodine 1, iodide of potash 2, water 300) for two minutes. It is then placed on a slide, firmly dried with blotting paper, and a drop of aniline oil containing enough pure iodine to give it a light mahogany colour is applied. This removes the

* A solution of carbolic acid and gentian violet in water (5, 5—100) may be used instead of the aniline water dye, and has the advantage that it is always ready.

† The small-spored variety stains more rapidly than the large.

loose colour from the cells of the hair, while leaving it in those of the fungus, and in most cases the fungus is now readily seen under a low power of the microscope. If a more careful examination be required, the iodine aniline oil should be removed by pure aniline, a cover-glass placed on the top, and the specimen then examined with the high power. If it is desired to keep the preparation permanently, the aniline must be washed off with benzol or xylol, and the hair mounted in Canada balsam.

Kerion (from *κηρλον*—*a honeycomb*).—This is a complication of ringworm which I agree with all the English observers may arise in either variety. It has been described as nature's method of curing the disease, although in it nature is more severe than she usually is in her cures. The whole patch swells up, the surface becomes red and glazed, the hairs fall out, and from the dilated follicles a certain amount of sero-purulent fluid can be expressed; hence the comparison to a honeycomb. The parts feel boggy, and are undoubtedly suggestive of an abscess. If an incision is made, there is, however, no pus to give exit to, and no benefit, indeed the reverse, is to be expected from incision. Very often the process affects all the spots on the patient's head; sometimes a few may be left unaffected. As the hairs are cast from the follicles it is evident enough that if the process affected all the diseased follicles, the cure would, though severe, be thorough. Unfortunately, a few hairs at the margin too often escape, and all the annoyance and suffering are in vain. In the case from which the accompanying illustration (Plate XV) was taken, the fungus was of the small-spored variety, and the patient's brother had ringworm without kerion.

Ringworm of the Body (*Tinea circinata*).—When ringworm spreads to the body we see, just as in seborrhœa, how differently the scalp and other parts of the body respond to irritants. The irritant, in this case the fungus, which merely causes faint redness and profuse scaling on the scalp, causes on the non-hairy skin considerable redness, scaling, or the development of vesicles (*Herpes circinatus*). The scaly patches are usually circular, pinkish in colour, and often show a tendency to flatten in the centre. The vesicular patches spread more rapidly and very often show the rings to which the disease owes its name. Not infrequently, when the disease has apparently left the centre, it re-appears, and concentric rings may develop. In certain regions, such as the groin and the

axilla, where heat and moisture are present, the fungus grows with great rapidity, and the signs of irritation are so increased that this form of the disease is still sometimes described as *Eczema marginatum*. Commencing in the region of the fork, the disease spreads down the thighs, and, less frequently, up on the abdomen. It is usually easily diagnosed by its abrupt margin, and the fungus is easily found. This variety is common in hot countries, where it goes by various names (Dhobie's itch, crawl-crawl). It certainly lasts an unusually long time, but whether this is due to want of activity in treatment or to climate, is uncertain. At all events, cases of tropical ringworm in that situation usually recover under treatment in this country, when the nature of the disease is recognised.

I certainly share the views of most British observers that both forms of the fungus may cause body ringworm. It is true that on the glabrous skin the fungus elements are more apt to be large and to develop into filaments, than they are on the scalp, but this would seem to be accounted for by the increased moisture and blood supply, brought about by the inflammatory reaction. Children, the subjects of small spored ringworm of the scalp, so frequently have patches on the neck and face that it is inconceivable that such patches are always due to the other variety of the fungus.

Ringworm of the Beard (*Tinea barbæ*).—The disease in this region presents itself in more than one form. It may appear as *Tinea circinata*, ringworm of the body, of which the skin of the beard region forms a part. Here we have the rapid development of a ringed patch, which is fortunately as amenable to treatment as *tinea circinata* generally is. The more common variety, the old *Sycosis menti*, is a deeper infection, and the process generally bears a close resemblance to kerion. Thus, the affected part is almost always swollen, nodular, and painful; in fact, in any doubtful affection in this region the presence of nodules should always suggest ringworm. The hairs do not so readily break off as in ringworm of the scalp, probably because they are stronger and more resistant. As a general rule the fungus in this affection is the large-spored or rosary one, but the other variety does occur, and is possibly more obstinate to treatment.

Ringworm of the Nails.—This is a comparatively rare affection, astonishingly so when one considers the facilities for

inoculation of the nails in children, in whom it hardly ever seems to occur. When the nail is affected, it has a dull, opaque appearance, and tends to break. Sometimes the disease extends in a line perhaps a quarter of an inch broad, some distance down the nail, without spreading to the lateral portions. It can only be definitely diagnosed by examining scrapings under the microscope.

TREATMENT.—When the cause of a disease is so accurately known as in this instance, treatment should theoretically be easy. Unfortunately this is not so in practice. The ringworm fungus is destroyed easily enough in the laboratory, but it is different when we are dealing with patients, the difficulty being to get the destructive agent brought into contact with the fungus. Some, indeed, go so far as to maintain that it is useless to endeavour to destroy the fungus, and that all we can hope for is to promote such a reaction of the skin as will *indirectly* cause its death. It may be admitted that in the majority of cases of ringworm of the scalp, means other than the *direct* destruction of the fungus are more generally useful.

In Ringworm of the Body (*Tinea circinata*) the fungus is superficial and easily reached. Here the directly destructive method is eminently successful. The unguentum hydrarg. ammoniat. or any anti-parasitic ointment, regularly applied, will soon get rid of the disease. Probably harm is often done by the excessive strength of the application. The fungus does not require for its destruction those concentrated remedies which too often replace the irritation of the fungus by an irritation of their own. The old-fashioned plan of painting such cases with tincture of iodine is a combination of the direct and indirect methods of treatment, which is often useful. Aldersmith recommends acetic acid 2 parts, liniment iod. 1 part. This should be painted on every day or every other day, and should reach a quarter of an inch beyond the disease.

Ringworm of the Scalp.—Although possibly the variety of the fungus has some bearing on the prognosis of any given case, the large-spored variety being usually more easily got rid of than the small, it has none on the treatment. The direct method is shown in its least favourable aspect in treating ringworm of the scalp. The hair follicles are deep and the fungus extends throughout their entire length, and it is nearly impossible to induce any destructive agent to pene-

trate to the bottom of every individual hair follicle. Still, parasiticide remedies have great advantages. Although some of the disease is in the follicles, the greater amount of fungus is found on the broken hairs and in the scales surrounding them, and these are eminently open to destruction by local applications, which further have the important effect of checking the spread of the disease.

In an ordinary case of ringworm of the head in a child, the first thing to be done is to have the hair cut short, and the diseased spots identified. Care must be taken with regard to the use of brushes, towels, caps, etc., and the child should sleep alone. The head should be washed frequently with some antiseptic soap. I cannot agree with Mr. Morris that water being an essential to the existence of the fungus should be withheld. The fungi have no difficulty in getting all the moisture they require from the tissues, and frequent washing certainly prevents the development of new areas, besides removing mechanically a large amount of fungus.

The direct Method.—In considering the applications to be made, we shall deal first with the drugs which have a reputation as parasiticides, premising that after all much more depends on the method of application than on any particular drug selected. The drugs which may be used are legion, and the actual selection is a matter of individual taste. Most of the mercury salts, copper salts, resorcin, salicylic acid, boric acid, carbolic acid, many of the new synthetic compounds, etc., have the power of destroying the fungus.

The form in which they are applied is important. Seeing that the fungus extends down to the base of the follicle, it seems unreasonable to expect aqueous lotions containing these drugs to be of much value. The two forms of application with which to reach the fungus are ointments and soaps. The mere spreading of an ointment on the surface is of very little value. It must be *thoroughly massaged* into the scalp with the thumb. The more prolonged and thorough this massage is, the more rapid will be the cure. Medicated soaps are theoretically more efficacious, since their power of removing grease should enable them to penetrate better. They, however, do not carry with them the medicament so completely as do the ointments, and a combination of soap and ointment, in what Unna calls salve soaps, is useful.

There are also other methods of increasing the activity of any given drug. Thus, salicylic acid, with its solvent power on the epidermis, is a useful addition; carbonate of potash is another. The basis of the ointment is important, and should in some proportion at least be lanolin. It seems to be universally admitted that lanolin (*adepts lanæ*) has a greater penetrating power than other bases. A useful ointment is the following :—

℞ Sulph. Præcip.	
Hydrarg. Ammoniat.	āā ʒss
Acid. Salicylici	grs. xx
Lanolini	
Vasellini	āā ʒss

The indirect Method aims at stimulating the skin to destroy or throw off the fungus. The popular method is the application of iodine, which, in addition to its irritant action, has also a directly destructive one. It is, however, not very efficacious in ringworm of the scalp. Blistering is a remedy which is often successful. Under this are included many forms of application. The blister is not necessarily produced by blistering fluid. The application of pure carbolic acid, recommended by some on account of its antiseptic powers, owes its value chiefly to the irritation which it sets up. Strong solutions of perchloride of mercury in spirit have the same action. No doubt these drugs destroy the fungus on the surface, but they do not penetrate into the follicles. The frequency of their application must be regulated in each individual case, and the irritation of one application should have nearly disappeared before another is made. Carbolic acid is applied pure, and the perchloride spirit, which is curiously irregular in its effect on different cases, should commence at a $\frac{1}{2}$ per cent. and be increased as experience shows it to be necessary. Chrysarobin, which is a very favourite remedy with Unna and Morris, requires care in its application to the head on account of its tendency to cause erythema of the face, and conjunctivitis. I look on its action as mainly, if not entirely, indirect. Unna applies it in his compound (5 per cent.) chrysarobin ointment (see page 124), and covers over the head of the child with a special gelatin dressing to prevent the drug from reaching the face. Mr. Morris rubs in a chrysarobin ointment for ten minutes, and then wipes away the excess. A useful way of applying it is in the form of the salve stick, which is a handy and most economical method

of treating many skin diseases. It is composed in this instance of:—

R	Chrysarobin	ʒiij
	Wax	ʒij
	Lanolin	ʒv

These are melted together and shaped into a rod like those with which our grandmothers used to fix their curls on their foreheads, and it may be rubbed vigorously on with less risk than the ointment of spreading to the face.

The severest method of treatment is that advocated by Aldersmith, viz., the application of croton oil. The object of this application is to imitate nature and to produce what is known as **artificial kerion**. It is a very dangerous remedy and must be used with the greatest caution, for in its effects it often outstrips nature in its power of injury, and leaves the part permanently bald. If it is to be used at all, it should get a fair trial and be used as Aldersmith directs. A small part is selected in order to test the effects. The hair is cut short for some distance around the spot, and carbolic lanolin is applied around to limit the spread of the oil. One drop of croton oil is then brushed over the part with a small camel's hair brush and the part covered with a small *linseed meal* poultice. The poultice is directly applied and covered with oil silk. Means must be taken to prevent it slipping, as, if it does, the pustules produced by the oil will be spread. The painting is repeated daily or every alternate day until either the whole part swells up, as it does in kerion, or a purulent folliculitis is produced, without elevation of the skin. The croton oil may then be stopped, but the poultices should be continued until all the hairs have fallen from the follicles. The after-treatment is that of kerion. If the diseased hairs are few in number they may be treated by the application of the oil on a blunt needle which is passed into the diseased follicles.

The effect of croton oil must always be carefully watched, as there is a possibility of producing sloughing of a portion of the skin. The first indication of this is, according to Aldersmith, a whitish pellicle on the surface, quite different from the redness usually produced.

The Mechanical Method.—Theoretically, epilation is an invaluable addition to any other treatment. The removal of the diseased hair is clearly most desirable. Unfortunately, it is in the majority of cases of very limited value, because the

hairs break off in the forceps and the diseased part is left in the follicle. Indeed, it is useless in any except skilled hands. In these it is a most valuable addition to treatment. With great care it is possible to remove a number of hairs entire, but the operation is tedious. As the disease improves and the hairs are less affected, its value becomes greater, and it is by no means a bad practice to extract the apparently healthy hairs around a small diseased part, for some of them will almost certainly be in the first stage of infection. Theoretically, I repeat, its value is very great. It is its practical inutility which tells against it.

Kerion.—The essence of treatment when this condition has developed is an attitude of masterly inactivity. Stimulant applications never do good and often do harm. Either zinc ointment or perhaps still better, starch poultices, should be applied until the irritation subsides and the part flattens down to its original level, when it must be carefully examined in order to discover whether any of the fungus has survived. The part remains red for a considerable time, and if the hair be long in re-appearing, some stimulant application, such as turpentine, should be used. Generally, however, no treatment but the soothing poultices is required.

Ringworm of the Beard.—As already indicated, ringworm of the beard region may appear in two forms. It may spend its force on the skin and run the course of ordinary *tinea circinata*. According to some this is the antecedent stage of the severer form. With that opinion I do not agree. At all events in the many cases of nodular ringworm of the beard which have come under my notice there is usually no history of any such commencement. This variety is further as amenable to treatment as is *tinea circinata* generally, disappearing in a few days under the application of, say, *unguentum hydrarg. ammoniat.*

In ringworm of the beard we have not the same difficulties with regard to epilation as in ringworm of the scalp. The hairs here do not so readily break, the extent of the disease is generally fairly defined, and epilation is of the very first importance. The hairs over the diseased part should be allowed to grow long enough to enable them to be easily seized by the forceps, and any part where there are nodules should be thoroughly depilated. After this has been done some antiseptic ointment should be rubbed in, and seeing that the diseased follicles are now all patent, the chances

of its penetration to their bases is very much greater. While any desired ointment may be used, I have a definite preference for a 10 per cent. oleate of copper ointment. Ringworm of the beard has about it none of the despair which attaches to ringworm of the scalp.

Ringworm of the Nails.—This is, as may easily be expected, a very obstinate affection. It is difficult to destroy the fungus in a hair follicle, and still more to destroy it in a hard substance like the nail. As much as possible must be cut away, and the remainder should be scraped down with a piece of glass as thin as possible before the application is made to it. This application may be chrysarobin, ammoniated mercury, or any other parasiticide. While there are few who approve of Harrison's method of treating ringworm of the scalp on account of the complications liable to ensue, there are few who do not regard it as valuable in the treatment of ringworm of the nails. He uses two solutions :—

℞ No. 1.—Liquor Potass.	
Aq. Destill.	āā ʒij
Potass. Iodidi	ʒj
℞ No. 2.—Hydrarg. Perchlor.	grs. iv
Spirit. Vini	
Aq. Destill.	āā ʒij

No. 1 is applied on a piece of lint and covered with protective. After remaining on for fifteen minutes, a piece of lint soaked in No. 2 is applied for twenty-four hours. The theory is that the iodide dissolved in the liquor potassæ is enabled to make its way among the softened nail cells, and that it is followed by the mercury, which combines with it to form the red iodide in the immediate neighbourhood of the fungus. This method, which, as already said, is sometimes followed by unpleasantly severe effects upon the scalp, is useful in this situation.

When one considers the interruption to education resulting from ringworm, its importance becomes much greater. While perhaps the majority of cases are well in six to eight months, there are too many which, under even the most active treatment, last for two or three or even more years. It is in such cases that the pressure put on the practitioner to certify the child as free from the disease is very great. No patient should ever be certified as free from ringworm unless, on a careful examination, after three weeks without any treatment, no scaling and no broken hairs are to be found. As long as

scaliness persists there is certainly fungus present, and before giving a certificate the head should be examined, not casually as is too often done, but carefully with the aid of a lens. Personally, I rarely give a certificate that a child is free from ringworm. It seems to me rather a rash thing for anyone to do. It is safest to state that, having carefully examined the patient, no trace of ringworm can be detected.

ALOPECIA AREATA.

(ἀλώπηξ—a fox; foxes often have bald patches on their coats.)

There is a considerable difference of opinion as to the nature of this disease, and in placing it among the infectious inflammations I follow my usual plan in arranging any such disputed diseases under the heading most suited to the majority of the cases. At the same time I freely admit the existence of a neurotic form of Alopecia areata, where the loss of the hair over an areated patch is due to some obscure nerve influence.



Fig. 26. Very extensive case of Alopecia Areata. Duration, one year.

The term should be used more rigidly than it is. Alopecia simply means baldness. It is the addition of the adjective *areata* which indicates the presence of a definite disease. The disease is characterised by the development of rounded areas from which the hair has almost entirely disappeared. The scalp is smooth and white, and feels distinctly thinner than the surrounding skin. This has led to its being regarded as an atrophy; probably the difference in thickness is due to the loss of the hair roots which form such an important con-

stituent of the scalp. On careful examination there are found, particularly at the border, but scattered here and there over the almost bald centre, the short hairs which are characteristic of the disease. These go by the name of "point of exclamation" hairs, and the comparison is a very suitable one. The distal end of the hair is dark, the neck is atrophied, and a small portion of the root sheath is often brought away in extracting the hair, and this forms the dot completing the exclamation point. It is said, though I have not been able absolutely to satisfy myself on this point, that these hairs are absent in the truly neurotic forms of the disease. The spots increase in number, adjacent ones may run together, and the alopecia may become very extensive or "total" (Fig. 26). The disease is not limited to the scalp; the beard is not infrequently affected, either alone or in conjunction with the scalp, and, if carefully sought for, patches on the limbs may very frequently be found.

ETIOLOGY.—There has for long been a good deal of clinical evidence in favour of the communicability of alopecia areata. Epidemics have often been noted, and now and again one gets what seems to be evidence of direct infection. Mr. Hutchinson believes it to be in some mysterious way connected with ringworm, and that a past history of that disease can usually be elicited. Radcliffe Crocker goes much further, and holds that not only are the two connected, but that a very large proportion of the cases diagnosed as alopecia areata actually are ringworm. While it is probably true that many cases of bald ringworm are mistaken for alopecia areata, it is difficult to accept Crocker's large statement. We see a great deal of alopecia areata in Edinburgh, and I have systematically examined the cases with this in view. I have examined a large number of hairs, both apparently healthy and evidently diseased, and I have not yet succeeded in recognising the ringworm fungus in any case which was clinically diagnosed as alopecia areata. If the diseased hairs are examined by ordinary methods, little information is gained, but if the staining method described under ringworm (p. 152) is applied, then one finds in all the evidently diseased, and in a few of the apparently healthy hairs, organisms which it seems not unlikely may be the cause of the disease. These organisms have been brought into prominence by the work of Sabouraud, but they were first described many years ago by Dr. George Thin, who described the organism as the *Bacterium decalvans*.

It is a short bacillus which is present in varying numbers ; sometimes only a few organisms are found in the root sheath, sometimes the hair is sheathed for a considerable distance up its shaft by thousands of them. Sabouraud has succeeded in cultivating the organisms, and claims to have produced the disease by injecting their toxin into guinea pigs. The validity of this experiment is, however, not generally admitted, for the injection of the toxins of other organisms is occasionally followed by the loss of patches of hair. The matter then must be held for the present "not proven," though strong suspicions attach to the organisms as the cause of the disease. It should perhaps be mentioned that Sabouraud's views, already referred to under Seborrhœa, are very far reaching, for he regards this organism as the same as that found in seborrhœa and in acne, and looks on the different changes produced as due to different degrees of virulence.

DIAGNOSIS.—More than one disease may produce a bald patch on the head. The diseases which are most likely to be confused with Alopecia areata are Ringworm, particularly the bald variety, and Lupus erythematosus. In the case of the former the follicles are not completely emptied as they are in alopecia areata. With a lens small portions of diseased hairs may be detected in them, even although it may be most difficult to remove them for examination. In doubtful cases the marginal hairs should be carefully examined. Lupus erythematosus of the scalp does not closely resemble alopecia areata, and there is little difficulty in diagnosis when one is familiar with both diseases. Lupus erythematosus of the scalp is, however, comparatively rare, and, therefore, certain points may be noted. The area affected is irregular in shape and develops much more slowly, it is much more hyperæmic in appearance, and the bald centre is much firmer, being indeed composed of scar tissue. Other characters of that disease are described under the proper heading. The appearances of these three diseases are fairly well contrasted in the Frontispiece. While "point of exclamation" hairs are of great value as an aid to diagnosis, the discovery of one or two hairs of that shape does not conclusively prove a case to be alopecia areata. I have several times seen them in ringworm, and more than once in seborrhœa of the scalp.

PROGNOSIS.—The prognosis of alopecia areata is very easy. If a patient is under forty, the physician may con-

fidently predict complete recovery. No doubt, exceptions occur, but they are so few that one may cheerfully take the risk of them. The recovery may be, and often is, slow, and the disease is very often worse before it is better. After forty every year added to the patient's age makes the prognosis less good, and therefore opinions should be more and more guarded.

TREATMENT.—Since time may in most cases be trusted to cure the disease, it may even, if desired, be left to that, but there is no doubt that treatment hastens recovery. There are two plans of treatment followed, according as the parasitic or the neurotic theory is held. Those who do not believe in a parasitic origin apply stimulant remedies, acetic acid, cantharides, ammonia, etc. Those who do believe in the parasitic origin use antiseptics, most of which, however, have stimulant properties, and, indeed, the converse is true of the stimulant remedies, many of which have the power of destroying organisms. It is usually difficult to satisfy oneself what the improvement in any case is due to. The last used remedy gets the credit, and those whose experience is small are apt to attach too great an importance to what is after all a mere coincidence. Thus, while three cases in succession may appear to yield readily to some particular application, the next thirty may be entirely uninfluenced by it. With this reservation I would put the remedies for alopecia areata in the following order. First, sulphur, which was first recommended by Thin, and recently, on the re-discovery of the organism, by Sabouraud. Sulphur ointment rubbed in vigorously twice a day has an excellent effect on some cases. Second, chrysarobin. This may be applied either dissolved in chloroform or in the form of the chrysarobin stick (p. 158). It is a favourite remedy with many. Third, perchloride of mercury in spirit, a $\frac{1}{2}$ to 1 per cent. Other remedies used are ammonia lotion, a favourite remedy of Allan Jamieson :—

R. Liq. Ammoniae fct.
 Chloroformi
 Olei Sesami āā ʒss
 Olei Limonis ʒss
 Spt. Rosmarini ad ʒiv

Sig.—To be used cautiously, until tolerance is acquired.

turpentine, paraffin oil, etc., etc. It is well when any treatment is apparently unsuccessful to humour the patient by making a change. If this is not done the patient will prob-

ably change not only his medicine, but also his physician, and as, as already stated, the last medicine gets all the credit, so does the last physician.

THE NAILS.

PHYSIOLOGY AND PATHOLOGY.—The structure of the nails is best understood by comparing it with that of the hair. The nail is developed in a very similar method, from a depression of epidermis, the central cells of which are modified to form the nail cells. The difference consists in the fact that the nail does not grow free like the hair, but that one side of it is laid flat against the skin and is partly adherent to it by a system of ridges. The white crescent, the lunula, seen in most persons, on the thumb at least, and in many on all of the nails, marks the anterior lower limit of the nail matrix, but the nail also grows from the under surface of the nail fold, that part which lies *over* it posteriorly. The nail bed, that part covered by the nail, which lies in front of the lunula, has no concern in the growth of the structure; the nail is simply pushed along it by the addition to its substance behind. If growth be most active in the nail fold, the nail is usually thick and broad; if the cells in the lunula be more active, then the nail is thinner and finer and the lunula is more in evidence. Fine nails with a well-marked lunula are said to be associated with blue blood, at any rate, they are undoubtedly hereditary.

The white spots made much of by fortune-tellers are due to the presence of air between the nail cells, and the transverse grooves which often mark the date of some severe illness, are the result of a temporary arrest of growth at that period. Longitudinal grooving is the mark of irregular cornification of the nail substance, and unless associated with obvious local disease, is usually the expression of some systemic disturbance (gout, etc.) "Spoon" nails, concave on the surface instead of convex, are often seen in anæmia, and recover as that disease disappears.

The diseases of the nails are not easy either to understand or to treat.

Onychia (ὄνυξ—the nail) is an inflammation of the matrix, and the term is applied whatever be the cause. It occurs in syphilis, it is often traumatic, and it is not infrequently associated with tuberculosis. It must be treated on general surgical principles with reference to its cause, and it is usually

necessary to remove the nail. Onychauxis (ὄνυξ—αὔξω—to grow) is the term descriptive of increased growth of the nail, whether it be in length or in thickness, and the term onychogryposis (γρύπσις—curvature) is used when this increase is twisted like a ram's horn. These two conditions are usually found in bed-ridden patients.

The nails are affected in many of the commoner skin diseases, especially in psoriasis and eczema. Either disease may affect the *nail bed* only, when the result on the nail is purely mechanical, it being raised from its proper resting place, its structure remaining unaltered. If, however, the disease affect the matrix or the nail fold, the nail is deformed in various ways, the surface being irregular or grooved in one or other direction. In severe eczema the nail is often much narrower than normal, and grows rapidly. The nails may also be affected in Lichen and in Pityriasis rubra. Their affection in Ringworm and Favus (onychomycosis) has been referred to under the heading of these diseases.

DIAGNOSIS.—The diagnosis of these affections is usually made from the presence of signs of the disease elsewhere. In fact, as Crocker says, when the nail affection is the sole manifestation, diagnosis is little more than guess work.

TREATMENT.—Just as it is in ringworm exceedingly difficult to reach the bottom of the hair follicle, so is it in diseases of the nail difficult to reach the seat of the disease. In those cases where the nail bed is affected, the difficulties are not so great, and suitable applications may be made to penetrate beneath the nail. When the disease is limited to the nail matrix and nail fold, treatment must be very persevering. The best applications are probably tar and resorcin. They must be applied to the tip of the finger continuously, and their penetration favoured as much as possible by the application of some impervious covering. Tar ointment may be applied at night, and a solution of resorcin (2–10 per cent.) either in water or spirit during the day. Arsenic given internally has an undoubted influence in promoting recovery in such cases, and should have a fair trial in every case.

Severe affections of the nail usually point to some constitutional defect, and tonics in addition to the arsenic are always a desirable addition to the more specific treatment.

LICHEN PLANUS.

Lichen planus forms a sort of connecting link between the inflammations of the epidermis and those of the corium, for in it both are affected, and there is some room for difference of opinion as to which is the primary seat of the disease.

The word lichen is derived from the Greek *λεῖχην*, meaning the fungus which we also call by that name, but why it should have been applied to this disease is obscure. The older dermatologists used the word much more widely than their successors, applying it to all diseases in which papules were a prominent lesion, even irrespective of the fact that the papule might only be a stage in the process. Thus the papular variety of eczema was known as Lichen simplex, and when a vesicle developed on the summit of the papule, the adjective *agrius* (*ἀγριος*—*angry*) was substituted. The term was also applied to other papular diseases, such as that which we now recognise as Seborrhœa corporis, which was called Lichen marginatus. It is now very much restricted in its application.

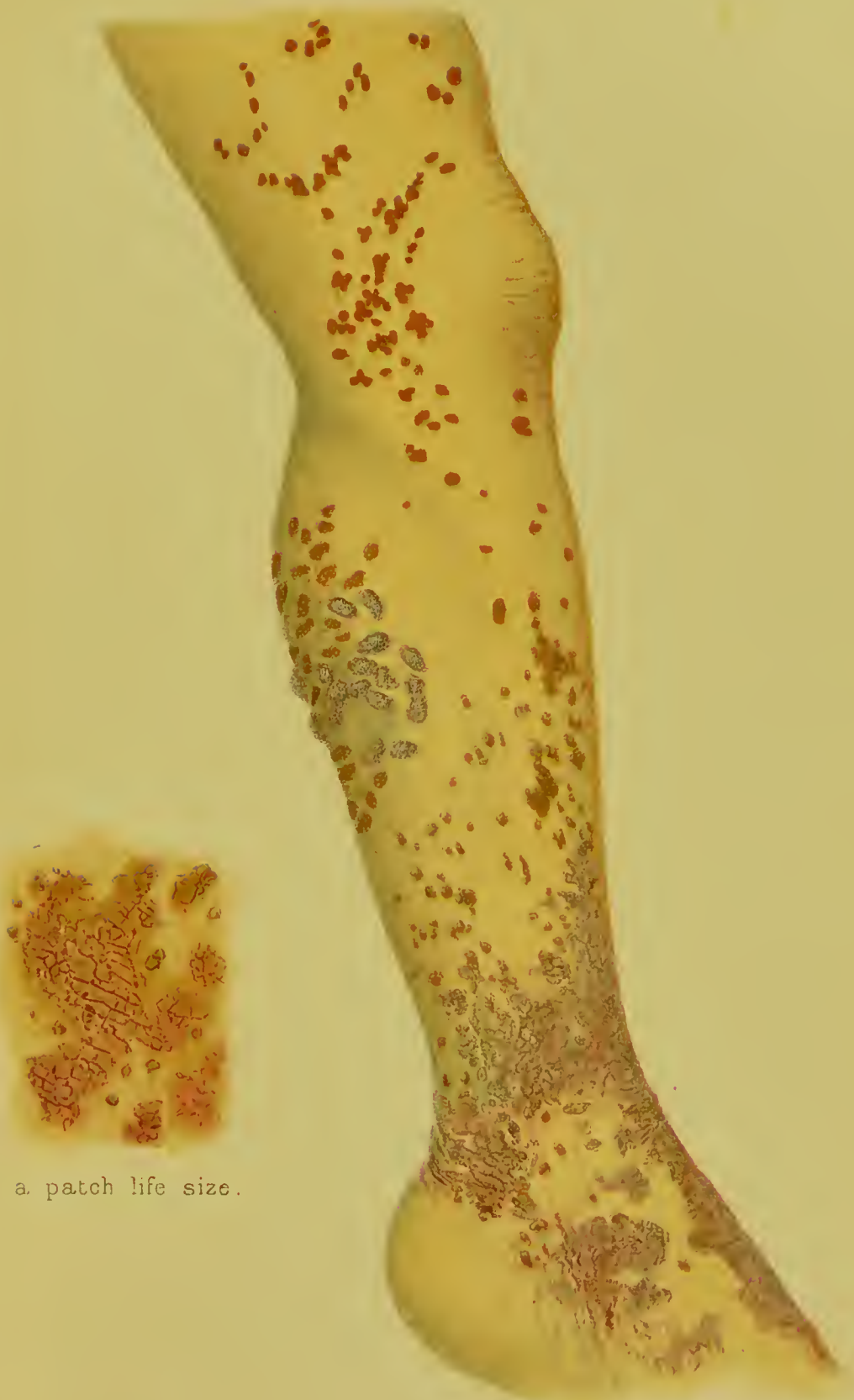
There are three diseases in which it is pretty commonly used, though some restrict it to one only. That one is the Lichen planus of Erasmus Wilson, and the others are the Lichen ruber acuminatus of Hebra, and Lichen scrophulosorum. Many regard Lichen acuminatus as the same disease as Pityriasis rubra pilaris (*q.v.*), while for Lichen scrophulosorum probably Folliculitis scrophulosorum is a better term. It is described under Tuberculosis.

Lichen planus is a very clearly characterised disease. It consists in the development of a series of papules, which commence as papules and remain as such. These have peculiarities clearly marking them out from all other skin diseases. The first peculiarity is their *shape*. Instead of being round as are most skin lesions, they have usually an *angular* outline, indeed their outlines are determined by the natural fine lines on the skin. Exceptionally, they are round or oval (Plate XVII), and have in their centre a minute depression, probably corresponding to a sweat pore. The *colour* of the papules is also peculiar. While it is not evident in every case, or rather not always evident, there is usually at some time, and often throughout the case, a peculiar *livid lilac* tinge which is so characteristic that once it has been pointed

out it should always be easily recognised. The papules have yet another peculiarity—their *apices* appear as if *burnished*. When the light strikes them in certain directions their flat surfaces are distinctly shiny. Lastly, as the spots disappear they invariably leave behind them more or less pigmentation.

While the distribution may be almost universal, there are certain regions which are always affected in slight cases, and most affected in severe ones. These are the flexor surfaces of the wrists, the inner aspects of the knees, and the back of the neck. When the disease is very widespread, papules are found most numerous wherever any compression is exercised, as by the garter or the corset. The papules are not altogether confined to the skin. In some cases whitish areas appear on the mucous membrane of the mouth, though in my experience this is quite exceptional. The papules may run together to form patches, the nature of which is sometimes not at once evident. Almost always, however, there are at the margins of the patch one or two papules in which the distinguishing features of the disease may be recognised. These patches are most common on the legs, are often covered with considerable scales, and have a certain superficial resemblance to psoriasis. On the legs, too, there is a tendency for the papules to form in chains along the line of the veins. These patches on the leg are associated with a good deal of secondary thickening, and are sometimes considerably elevated, but true warty development (*Lichen verrucosus*) is very exceptional, and probably occurs only in neglected cases.

The papules have a varied duration, some of them disappearing rapidly, and others persisting for months, and according to their duration their site is marked by less or more pigmentation. This is always most pronounced on the legs, and it persists for many months after all other traces of the disease have passed away. Plate XVI is made up from two cases. The spots on the thigh, the knee and ankle are from a case which had lasted for eight months, and show the distribution on the inner aspect of the knee, the bluish colour and the shiny surface. The disease around the ankle shows the combination of the livid lilac colour of the fresh disease with the pigmentation due to old lesions. The spots on the calf are from the case of an old man, and had lasted for two years. Some of them are raised and scaly,



a. patch life size.

M'Farlane & Erskine, Edin'

LICHEN PLANUS.

and the rich brown pigmentation marks left by others is well seen.

When a papule is removed and sections are examined under the microscope, the appearances are so regular and consistent that without knowing anything of the specimen, one has no difficulty in diagnosing the condition.

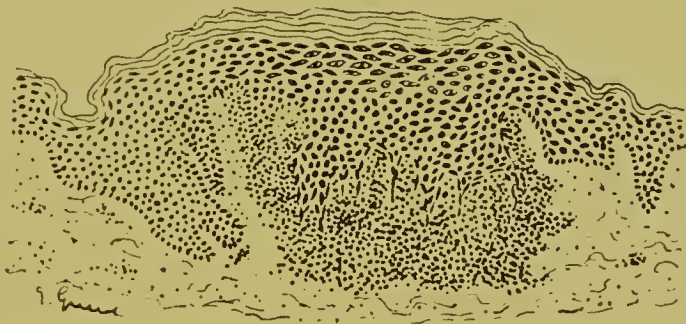


Fig. 27. Section of a Lichen planus papule: horny layer thickened, epidermis thickened and its cells enlarged and lengthened laterally. Dense growth of connective tissue cells in the corium, sharply margined beneath; $\times 75$.

The horny layer is thickened and dense. The cells of the rete are to some extent increased in number and more notably so in size, but an alteration in their shape is the most marked change. They are laterally lengthened; *stretched* over the growth beneath.

It is in the corium that the most notable changes occur. Occupying a little lozenge-shaped area, close under the epithelium and sharply marked off from the rest of the corium beneath, is a collection of cells (Fig. 27). From the examination of a large number of sections from many different cases, and after fully discussing their nature with such authorities in cells as my friends Dr. Lovell Gulland and Mr. Stiles, I venture to differ from those of the text-books which describe them as leucocytes. The cells are of the connective tissue type, and are similar to those found in the granulomata. When papules from different stages are examined, and more especially in the long-standing, thickened, elevated patches which occur on the leg, further changes are seen. The horny layer may be more thickened, and often there are projections downwards from it into the rete. These changes I believe to be secondary. In the corium, lines of new vessels may be found running in among the collection of cells; indeed, a process of organisation is going on. This is to some extent

confirmed by clinical observation, for although no actual scar is produced, in many cases a condition not very distant from it is developed. It is thus apparent that further investigation confirms the view that the cells are of the granulomatous type. There are, further, clinical facts in support of the disease being more than a catarrhal inflammation of the skin. The disease may persist for years, and in wide-spread cases there is, while rarely any actual illness, very often a vague general disturbance of the health, such as is not found in the ordinary cutaneous catarrhs. While it is possible that this view is too advanced, I find that others have their doubts as to the inclusion of lichen among the superficial inflammations of the skin. Thus Kromayer ("Allgemeine Dermatologie," page 127) says: "In *Lichen planus*, *Lichen scrophulosorum*, and *Lupus erythematosus* the process goes further. There is a commencement of the formation of granulation tissue, though there is no development of new tissue as in the granulomata the skin does not completely return to the normal. It appears sunken, atrophic." In my translation of Unna's "Histopathology," Fig. 17, the cellular patch in the corium is indicated as the *primary* stage, and the epidermic thickening as the *secondary* one. On page 307 Unna says: "This is infiltration consisting in the main of connective tissue cells."

The effects of treatment do not help us much with regard to its nature, for both local and general conditions may be successfully treated by both local and general means. Still it does seem that the occasionally remarkable effect of perchloride of mercury, as referred to under treatment, is at least not against the theory I have put forward.

The anatomy explains the peculiarities of the spots. The burnish on the surface is due to the stretching of the epidermis from beneath, and is a purely physical phenomenon, not confined to lichen, for to the same physical characters are due the mother-of-pearl edge of early Rodent ulcer, and the shining surface in *Molluscum contagiosum*. The colour is due to the thick cellular layer "which lies like a dense opaque medium over the dilated capillaries" (Unna).

ETIOLOGY.—The etiology of the disease is obscure. It is usually placed in Hebra's class of exudations or inflammations, but many consider it to be dependent on nerve influences, and Mr. Morris puts it among the "diseases due to nerve disorder." The anatomical appearances seem to support the view that it

PLATE XVII.



LICHEN PLANUS.

is an infectious inflammation, and I believe that Lesser has described an organism in connexion with it, though I have been unable to trace the reference. I have not succeeded in finding any organism.

PROGNOSIS.—While some cases get rapidly well, as a rule the disease is prolonged and obstinate. The widespread cases often take fully six months to recover, while the localised patches on the leg may remain for years. The longer they persist, the deeper is the pigmentation which results.

TREATMENT (*Internal*).—The favourite remedy undoubtedly is arsenic, and many cases do well under it. It must be given in increasing doses until improvement commences, when further increase should be stopped, for arsenic has a tendency to increase the pigmentation which naturally occurs in the disease. If any signs of its poisonous effects appear it should be stopped. It is possible, as in other diseases, to so lower the condition of the patient that there is an apparent improvement, but the disease reappears when the patient regains his strength. If arsenic is unsuccessful, antimony may be tried. Jamieson and Morris prefer it to arsenic.

The internal remedy which has proved most efficacious in my hands is that recommended by Liveing, namely perchloride of mercury. In some cases the disease disappears under this treatment ($\frac{1}{12}$ of a grain three times a day) with a rapidity which is unapproached by either of the other remedies. So successful was it in the first case in which I used it, that I have to congratulate myself on the fact that I was able to confirm the diagnosis by the examination of a papule which I had removed, else I should have suspected that the case was, after all, syphilis. I have just had under my care a widespread case which had lasted for six months, during all which time the patient had been taking arsenic, and had been treated for a time at Harrogate without any improvement. In a fortnight, under mercury, every papule had flattened down, and the improvement in the patient's general condition was very marked.

(*External*).—Probably few practitioners depend on internal treatment alone. Active external treatment is desirable in all cases. Unna has used with such success carbolic acid and perchloride of mercury that his colleague

Leistikow has christened it "Lichen ointment." The prescription is:—

R̄	Unguent. Zinci Benz.	℥iij
	Acid. Carbolic.	grs. xx
	Hydrarg. Perchlor.	grs. i-ij-x

It may also be applied in collodion:—

R̄	Acid. Carbolic.	grs. x
	Hydrarg. Perchlor.	grs. i-v
	Creasote	℥ ij
	Collodion	℥j

There are many other applications. In general it may be said that the preparations which are useful in Psoriasis are useful, diluted, for Lichen. Tar has seemed to me to be the best remedy. The liquor picis carbonis of the new Pharmacopœa may be painted on the spots. For the obstinate patches on the leg salicylic acid may be used, either in the form of plaster or ointment.

LOCAL INFECTIOUS INFLAMMATIONS OF THE CORIUM.

Unna divides these into four groups, as follows: (1,) Serofibrinous inflammations; (2,) Purulent inflammations; (3,) Inflammations in which there is a tendency to necrosis; (4,) Inflammations in which the tendency is to growth (the granulomata). The first two are small classes, the last is one of the most important groups of skin diseases.

SEROFIBRINOUS INFLAMMATION.

ERYSIPELAS.

(έρυθρός—red; πέλλα—the skin.)

This disease is so fully described in all the text-books of medicine and surgery that it is unnecessary here to repeat the main facts regarding it. Dermatologically, it is mainly important in connexion with diagnosis, for certain forms of dermatitis pretty closely simulate it. The disease most commonly confused with it is an erythematous dermatitis of the face resulting often from exposure to the sun or to some other irritant. The important points separating Erysipelas from the less specific rashes are as follows: There is almost invariably a rise of temperature and a quickening of the pulse. The patient usually feels ill. On inspection, the part has an angrier red colour than is commonly present in dermatitis, the

margin is usually abrupt, and irregularly shaped bullæ appear on the surface. When the hand is applied to the part it feels hot, and there is further a brawny, firm feeling which is different from the less dense swelling usually accompanying dermatitis. Sometimes the red colour is not present. Whether this is due, as in urticaria, to the amount of exudation emptying the vessels is, so far as I know, undecided, but "white erysipelas," as it has been called, certainly does occur.

TREATMENT.—Ichthyol is by far the best treatment for erysipelas. It may be applied in an aqueous solution of 20 per cent. or in an ointment $\bar{3}j$ – $\bar{3}j$. Either should be applied continuously, and usually the good effects are apparent in a few hours. So certain is it in its effects that it is hardly necessary to administer iron, though in the pre-ichthyol days $\mathcal{M}xx$ doses, three or four times daily, of the Liq. Ferri Perchlor. aided greatly in the treatment.

PURULENT INFLAMMATION.

FURUNCULOSIS.

(*Furuncle—a boil, from "fur," a thief.*)

"Boils" are but too familiar, and in the older works are honoured with long descriptions of themselves and their varieties. The boil is caused by the staphylococcus, which gaining an entrance to a hair follicle, multiplies there, and eventually breaking its way through the wall leads to a deep thickening, in the centre of which millions of cocci are found in the necrotic "core." While most often found in those who are run down, they are frequently found in persons of vigorous health, and are still looked upon by many of the laity as a matter for congratulation, as evidence of rude health. When occurring in the healthy, some local cause is usually to be found. The boils at the back of the neck are undoubtedly kept up in some instances by the contamination of the collar of some particularly comfortable old smoking jacket, while those about the anus are in some cases due to want of absolute cleanliness or to similar contamination from the clothes. Their occurrence in the course of diabetes or Bright's disease must be borne in mind, but whatever the general condition, local infection is a *sine qua non*.

TREATMENT.—This must be two-fold, local and general.

The indications for the former lie on the surface. Probably no other method is so satisfactory as the application of Unna's mercury and carbolic plaster. Boils which appear as if they must inevitably burst, slowly melt away under its continuous application, while less advanced ones disappear as if by magic. When rupture is inevitable they should be opened and dressed with boracic lint and protective. The poulticing so dear to the lay heart should be absolutely interdicted; there are few better methods of spreading boils than a linseed poultice. If there are on the skin a number of small pustules, the whole region should be treated with dilute ammoniated mercury ointment.

The general treatment consists in the administration of tonics, such as iron and phosphorus. There are also certain substances which have a reputation which is not confined to the laity. Yeast has the approval of more than one experienced dermatologist, and is probably worth a trial where it is easily procured, the patient drinking every morning a tumbler of fresh yeast from the surface of the fermenting tun. Another remedy about which there is some difference of opinion is the sulphide of calcium, already referred to under the treatment of Acne. In a small proportion of cases the results are sometimes most satisfactory, the boils disappearing very rapidly. It is usually prescribed in pill form, $\frac{1}{6}$ of a grain three or four times a day. According to Ringer, it is much more efficacious when freshly dissolved in water and taken in small doses every hour.

NECROSING INFLAMMATIONS.

The local infectious inflammations which show a tendency to break down are all due to known organisms. Most of them also affect other organs, and are more fully described in text-books of medicine and surgery. They include the soft sore, noma, anthrax, glanders, and actinomycosis, in all of which the growth of the organism leads to necrosis and breaking down of the tissues. The first two are not usually regarded as skin diseases.

ANTHRAX.

(*άνθραξ*—*a coal*.)

The malignant pustule is practically the only form of this disease that the dermatologist has to deal with. It is

acquired in one of two ways, either by butchering an animal with the disease, or in sorting wool and hides from diseased animals. The occupation, therefore, of the patient is a great indication and help to diagnosis.

The pustule commences with an itching red spot not unlike the bite of an insect. A vesicle rapidly develops and very rapidly dries up into a *dark, reddish black slough*. The tissues immediately around this become indurated, and a group of secondary, smaller vesicles may form a circle around the central slough. These are, however, not always formed, and the term "pustule" is a little apt to draw attention away from the hæmorrhagic slough, which is so much more characteristic, and is usually present when the case comes under observation. There is at this stage comparatively little constitutional disturbance; the contest between the organisms and the tissues is a purely local one, and it is only when this contest has terminated in favour of the bacilli that they obtain access to the blood and give rise to *splenic fever*. The disease has another local method of attack, probably due to a deeper inoculation. In this form the black eschar is absent, and the local change consists in an œdema of the tissues. This has been called Anthrax œdema and Anthrax erysipelas, to the latter of which it has some resemblance. It is a more serious disease than Malignant pustule.

PROGNOSIS.—In some cases the patient's tissues (leucocytes?) are strong enough to destroy the bacilli, and malignant pustule may terminate favourably without any treatment. In very many instances, unless promptly treated, the disease terminates fatally.

DIAGNOSIS.—Theoretically, one should be able to find the anthrax bacilli very easily in the discharge, but as a matter of fact they are not easily found, and indeed even when the excised part is examined microscopically they are not always easily detected, though they are readily enough cultivated. For diagnosis, however, the cultivation test is useless, for no one would be justified in leaving a case supposed to be anthrax untreated until the result of cultivation was determined, and the diagnosis must rest in most instances on the history of the case and the characteristic appearance of the black central slough.

TREATMENT.—Up to very recently immediate excision was regarded as the only justifiable treatment of the malignant

pustule. There are now, however, many who not only consider excision useless, but that the patient has a better chance of recovery without it, and these recommend the application to the lesion of carbolic poultices or of mercurial ointment. While my personal experience of the disease has not been large, I have more than once been struck in examining excised pustules with the small number of organisms present, and their limitation to the superficial regions. The part excised has always been apparently unnecessarily large, and there is a good deal of testimony favourable to the expectant method of treatment. Everything must be done to support the patient's condition, so that his power of destruction of the organisms may be increased.

GLANDERS.

(*Glans—a gland.*)

This, too, is a disease which presents itself in two forms, either local or generalised. Like the preceding one it is connected with employment, and is found almost exclusively in those who have the handling of horses. Still both of them may be accidentally found in others, and in neither of them must too much stress be laid on the occupation.

The form of the disease which comes under the notice of the dermatologist is the single ulcer, which appears usually on the face or hands, and is exceedingly puzzling as to diagnosis. Somewhat resembling a syphilitic ulcer, it develops even more rapidly than that, and is of course unresponsive to specific treatment. Here cultivation is of more value in diagnosis, for the disease is not so rapidly serious as anthrax, and by passing some of the discharge from the ulcer through a guinea pig, cultivations of the *Bacillus mallei* may be procured.

The only treatment of any use is the radical destruction of the ulcer by the actual cautery, no attention being paid to anything save the destruction of the diseased tissues.

ACTINOMYCOSIS.

(*ἀκτῖς—a ray, μύκης—a fungus.*)

Pearl or Wooden Tongue has been long known as a disease of animals, and although a case of the affection in the human subject was recorded as far back as 1845, it is only comparatively recently that it has been widely recognised. While

PLATE XVIII,



ACTINOMYCOSIS.

the parasite usually enters by one of the mucous surfaces, the skin is not infrequently the seat of its first attack. The disease is found in those who are connected in any way with farming, or with the handling of hay and straw, the "ray" fungus being found in these. The lesions on the skin, which are usually secondary to deeper disease, are quite characteristic. The only word to describe the appearance is the vulgar one of "blob." The granulations are like little sticky drops, reddish in colour, emerging from a reddened, thickened, fistulous opening, and discharging a fluid containing little sulphur-yellow granules. Plate XVIII, which is from a photo kindly lent me by my friend Prof. Boeck, illustrates the condition excellently. The disease may be limited or extensive, and may attack downwards, reaching the bones and ultimately terminating fatally, or it may remain local for a considerable period.

DIAGNOSIS.—The little yellowish grains which are present in the discharge consist of masses of the ray fungus. The parasite consists in the centre of a felted mass of filaments, which are modified at the periphery into the characteristic club-shaped structures. It can be stained by Gram's method. The microscope is of more immediate value in this disease than in the two preceding ones, for usually in the discharge some fragments of the fungus may be detected.

TREATMENT.—Surgical methods, scraping out the sinuses, and the application of carbolic acid or some similar preparation, are indicated. Most, however, is to be hoped from the internal administration of large doses of iodide of potassium. Whether, as in syphilis, the iodide rather removes the products than destroys the cause of the disease is possibly open to dispute, but it certainly promotes the absorption of the swellings and the healing of the sinuses, and it may be that the patient's juices destroy the fungus. It should never be omitted in any case.

THE GRANULOMATA.

The local infectious inflammations of the corium which show *a tendency to form growths* are rhinoscleroma, yaws, mycosis fungoides, syphilis, tuberculosis and leprosy. It is true that many of these ultimately break down, but they are distinguished from the preceding class by their having, at all events, a longer period of the growth stage.

RHINOSCLEROMA.

(ῥιν—the nose; σκληρός—hard.)

This is a very rare disease, consisting in a peculiar hardening of the tissues of the nostrils and upper lip. Commencing unobserved, it gradually goes on until these have acquired a cartilaginous hardness, and often enough the nostrils are obliterated by the enlargement of their walls. It is due to a specific organism, a bacillus which can be cultivated with comparative ease.

Formerly, treatment was directed entirely to palliating the condition, and keeping the nostrils open by tangle tents, etc. More recently, attempts have been made to produce an anti-toxin, which has been used in some cases with benefit. No case has as yet been observed in this country.

YAWS, or FRAMBÆSIA.

(Fr. framboise—a raspberry.)

This is a disease of the skin found in certain tropical countries, the West Indies, South America and Madagascar. It runs a course somewhat like that of syphilis, but in the opinion of those who have practised in those countries and have consequently had the opportunity of investigating the disease carefully, it is quite distinct from that disease.

There is a prodromal stage, most marked in children, in whom the disease is commonest, with symptoms somewhat resembling those of rheumatic fever. Then appears a local sore (usually extragenital) and a secondary rash, in which a number of yellowish red lumps (yaws) appear. These enlarge and become crusted. When the crust falls off there is disclosed a papillomatous growth from which issues a malodorous, sticky discharge. Papules sometimes appear on the mucous membranes. The tertiary symptoms, which only occur in certain cases, are more suggestive of a resemblance to syphilis. Subcutaneous gummata form, and there are nodes on the tibia, perforation of the soft palate, etc.

DIAGNOSIS.—The only disease with which it can be confounded is syphilis, and the following differences are noteworthy: Frambæsia occurs most commonly in childhood, and is rare after thirty-five. The eruption is *always the same* and is *always itchy*, while alopecia and iritis are conspicuous by their absence.

TREATMENT.—Tonics, such as quinine, appear to be the most general favourites. Mercury and iodides, though some condemn them, seem to be usually beneficial.

MYCOSIS FUNGOIDES.

(μύκης—a *fungus*.)

This term was introduced by Alibert, and remains in use, although the word “mycosis” must not be understood to indicate that any “fungus” is present. It is fortunately a rare disease, as most cases terminate fatally. The essence of the disease is the development, on any part of the skin, of tumours, which vary in size from a pea to an apple. These may be preceded by an inflammation of the skin which is often described as the pre-mycotic stage, but which Unna prefers to look on as a slowly progressive first stage of the malady. At this stage the eruption often resembles eczema, urticaria, or erythema, and suspicions of its nature are usually aroused by its want of response to treatment for these diseases. At this stage the disease may last for one or two years before the tumours appear. These are usually of a deep red colour, until they become complicated with surface catarrh, when yellow crusts appear on the surface. After they have reached a certain size the surface tends to become moist, certain areas soften and break down, and a fungating appearance is produced. Sometimes the tumours become pedunculated and drop off. According to Unna, the commonest form of the disease tends to begin above and spread downwards, in the same way as seborrhœa does, and he appears to regard the moisture which develops on the surface as indicative of a complication with seborrhœa. In a case at present under my care this view seems to be borne out, for the true mycotic tumours have here and there among them typical seborrhœic warts. The duration of the disease varies. Cases have been known to last as long as fifteen years, but as a rule death results in from three to five.

The nature of the disease is quite obscure. It has many resemblances to sarcoma, but the internal organs are never affected. The tumours consist of small cells of the connective tissue type, and most observers regard it as in all probability a granuloma. Organisms have been found by several observers, but not invariably, and there is no proof of their connexion with the disease. In none of the five cases which

I have examined could I satisfy myself that certain micrococci present had any relationship to the disease.

Death usually results from exhaustion brought about by the softening of and suppuration around the growths, and probably the best lines on which treatment should proceed are to prevent this suppuration by the application of suitable dressings. Mild antiseptic ointments should be kept constantly applied, and I have seen benefit result from Unna's mercury and carbolic plaster. Morris got good results in one case from the application of resorcin ointment, 20 grains to the ounce.

Tonics of various kinds should be administered, and it has seemed to me that arsenic is of some benefit although it has certainly not the same power which it has in multiple sarcoma of the skin.

SYPHILIS.

For a description of the primary lesions and the disease as a whole, special monographs or text-books on surgery must be consulted; here we are simply concerned with its manifestations on the skin, and these are so numerous that they can only be treated with comparative brevity.

It is not very easy to lay down definite rules as to the periods in which the different skin eruptions appear, and to say, this is a secondary eruption, that a tertiary one. So far as possible, however, they will be dealt with according as they appear early or late in the course of the disease.

The earliest rash is the roseola, which appears on the chest eight or ten weeks after infection. As a rule this is a mere erythematous redness, often only discoverable with difficulty, and most evident immediately after the patient has removed his clothes. Exceptionally, this rash is more developed, and exudation accompanies the erythema, leading to a pretty close imitation of erythema multiforme. Very exceptionally, small bullæ may be developed on the erythematous patches.

The next rash in point of time to appear is the scaly one which is so often described as syphilitic psoriasis. Syphilis and psoriasis are two distinct diseases, and if the old meaning of the latter term is to be retained, the term is utterly incorrect. If, on the other hand, the views already put forward to the effect that seborrhœa and psoriasis are practically one and indivisible are accepted, then there is, perhaps, something to be said for the term. This scaly

rash is a combination of syphilis and seborrhœa, the two diseases mutually favouring each other's development. The seborrhœic catarrh on the surface induces a hyperæmia which apparently favours the growth of the syphilitic virus, while that in its turn provides a *locus minoris resistentiæ* for the growth of the seborrhœic organisms. This rash follows the distribution and spread of seborrhœa. Commencing on the head it spreads on to the forehead, where it forms a "Corona Veneris," and then to the trunk and limbs. In many respects the spots closely resemble those of seborrhœa corporis, but there are one or two important differences which make the differential diagnosis easy. The colour of the spots is a much *deeper red* than that of the seborrhœic ones, and when the hyperæmia is dispelled by pressure, a brownish yellow tinge remains. A still more marked difference is felt on palpating the spots. The lesions of seborrhœa are slightly raised above the surface, but this increase is perceptibly mainly due to thickening *of* the skin; in the syphilitic lesion the increased resistance is much more marked, and though partly in the skin it is mainly *beneath* the surface—a feeling of a new growth is conveyed to the finger.

All the varieties seen in seborrhœa may be present, the spots may be very dry and covered with silvery white scales, or they may be moist and be surmounted by yellow, greasy crusts; it is exceptional for them to weep. At the contact surfaces, particularly between the buttocks, growth may be very active; and warty, condylomatous growths may appear.

Less frequently at this stage the eruption may be pustular or bullous, in fact, there are very few diseases of the skin which may not be imitated by syphilis. It must therefore never be forgotten that the skin eruption is not the only lesion, and at this secondary period the diagnosis of syphilis should never be made from the skin eruption alone. Hardening of the glands, ulceration of the throat, and mucous patches in the mouth should be carefully sought for. The eruptions at this stage of the disease pass away without leaving any trace of their existence.

The next rash in point of time to appear is rupia, of which Mr. Hutchinson very truly says that "although of all others the most easy skin disease to represent in a portrait, you scarcely ever see it in practice." The limpet-shaped scabs

are very characteristic, and the rounded numular scars which they leave are almost equally so.

The tertiary period is associated in the student's mind with the gumma, and he is sometimes apt to forget that there are several other forms in which the disease may appear at this period. Gummata may be cutaneous or sub-cutaneous, the latter being the more common. A swelling, varying in size, appears on the skin, which is generally slightly discoloured. Usually suspicions of its nature are aroused by a peculiar, rounded softening in the centre, which gives to the finger the sensation of feeling the empty mouth of a medicine bottle through some overlying substance. This breaks down, and we then have the typical gummatous sore. Cutaneous gummata are naturally more superficial, the slough takes place more rapidly, and is of course shallower. They are by far most common on the legs, especially about the knee, though they may occur at any part of the surface. Cutaneous gummata are very frequently multiple, appearing in groups, and in healing there is a degree and form of pigmentation which it is of the greatest value to be familiar with, not only in the diagnosis of other forms of skin eruption, but of any obscure ailment from which the patient may suffer. The pigmentation is considerable in amount, in colour it is a mixture of gray and brown, and the scar, which stands out white against the surrounding pigmentation, has a peculiar "scalloped" outline.

Another form of tertiary lesion is the ulcerating crusted syphilide. In this form, which may be very widespread, the surface is covered with evil-smelling crusts, beneath which an ulcer is concealed. These ulcers spread serpiginously, and often give rise to very great destruction. It is in this form that the "horse-shoe" shape is most typically developed. It is most apt to occur in patients who have neglected the primary stage of the disease, and whose circumstances are unfavourable.

The next variety of tertiary eruption is that which for lack of a better term we call syphilitic lupus. It is very much to be regretted that there is no substitute name, because this one leads both to laxity in diagnosis, and to the confusion of the student. All that is meant by the use of the term "Lupus" is that the lesions resemble the apple-jelly nodules of that disease. As a rule they are redder in tinge; the syphilitic lesions are more vascular than those of tubercle.

In my experience this is one of the latest manifestations of the disease. I have seen it appear as late as twenty-five years after the primary disease, there having been no eruptions in the interval.

DIAGNOSIS.—The diagnosis of the secondary eruptions has already been incidentally referred to. Syphilis should never be diagnosed at that stage from the eruption alone, other signs must be present. In the later eruptions evidences of bygone disease should be most carefully sought for. A small pigmented scar in the neighbourhood of the knee will clear up the nature of a very obscure eruption. These later eruptions are almost always associated with scarring, and this very much narrows the field of possibilities. The history is of no value. It is almost as likely to mislead one way as the other. The diagnosis from tuberculosis will be referred to under that disease, and sometimes one must fall back on the sage advice of the old clinical teacher who advised his students in cases where they were unable to make a diagnosis, in acute cases to think of typhoid fever, and in chronic ones to think of syphilis.

TREATMENT.—There are few diseases where the treatment is in its main lines so simple as this. It seems incredible that there are still some who persist in treating it without mercury, for they practically allow the disease to run its course. Fortunately for the public they are now few. All the leading syphiligraphers of the world are united on that point if on few others, the point over which they chiefly differ being the form in which the drug should be administered. There are three main methods, for the fumigation method has been practically abandoned. These three are, administration by the mouth, by subcutaneous injection, and by inunction. The first is the one which is most favoured in this country, and in most cases it is quite satisfactory. Half a grain of grey powder made into a pill and given three times a day is a convenient form. So is calomel in suitable doses, and perhaps the most popular form in this school is the solution of the perchloride, $\frac{1}{12}$ of a grain being given three times a day. The red iodide has its followers, and indeed any of the salts may be given. Subcutaneous injection is largely used on the Continent. It has the merit of accurate dosage, and the patients are more under control. Many still use perchloride, and inject from $\frac{1}{6}$ to a $\frac{1}{4}$ of a grain into the buttocks once in every five, six, or seven days. The pain

is not severe, and soon passes away, and, as may well be expected from the nature of the drug introduced, abscesses from organisms are practically unknown. Other forms are sometimes used; grey oil (a mixture of metallic mercury and oil), calomel, and albuminate of mercury. All have their advantages and all have their disadvantages. The insoluble preparations are a little uncertain, their conversion into soluble ones and their activity appearing to be beyond control.

Inunction is the most efficient, the most unpleasant, and the most uncleanly method. In any case where the symptoms are serious and it is desirable to get the patient rapidly under the influence of mercury, inunction is the method to be followed. About a drachm of the ointment is rubbed into a different part of the body every night. The usual course is the front of the chest, sides of the chest, the groins, the upper arms, the thighs, and the legs. On the seventh day the patient is allowed to rest and bathe. The course usually lasts from three to six weeks. A somewhat more cleanly method of inunction is the use of mercury soap. It is very easily used, attracts no attention, and is particularly suitable for commercial travellers and those who are unable to get treatment thoroughly carried out. I have more than once succeeded in dispelling late manifestations by simply directing the patient to wash his hands and feet alternately with mercury soap. The lather is of course to be rubbed in till dry.

In the later stages the iodides have their place, though I fully share Prof. Whitla's views that "iodide relieves, but mercury cures," and I almost invariably prescribe them together. Every now and then one meets with patients who cannot take iodide, and certain suggestions for such cases will be useful. The combination with the iodide of "Pepsencia," prepared by Fairchild, has more than once been most successful in my hands, and the still more recent "Iodalbacid," prepared by Ganz, of Frankfurt, has sometimes proved more useful than the ordinary iodides. In gummata, and in the ulcerative forms of the disease, the local application of mercury is most useful. Unna's mercurial plaster, or simple ungt. hydrarg. kept continuously applied to the part, hastens the cure. I have not seen so much benefit from this form of application in the non-ulcerated forms.

TUBERCULOSIS.

Not so very long ago, the term tuberculosis of the skin was restricted to a very small number of cases, mostly occurring in patients with very advanced phthisis, in whom a tubercular ulcer made its appearance in the neighbourhood of one or other mucous orifice, usually the rectum.

When the strong suspicion that Lupus was a tubercular disease was confirmed by Koch, by cultivation and inoculation, there still remained a few unconvinced, and it was necessary to adduce arguments in favour of the tubercular nature of the disease. Although there are one or two eminent dermatologists who still maintain this attitude of doubt, the general consensus of opinion is so nearly unanimous, that it is a work of pure supererogation in a manual such as this to discuss the matter.

Lupus vulgaris may be regarded as the typical tuberculosis of the skin. That it is the only form, no one for a moment maintains, but it is the chief in importance and gravity.

The disease presents itself in many clinical varieties, but all of them have in common the presence of the tubercle bacillus, with more or less distinctly evident those pathological changes which we are familiar with as characteristic of the reaction of the tissues to that organism.

It may be well to state here that I entirely separate the disease known as *Lupus erythematosus* from the disease under consideration. On this question there are three schools, one regarding the diseases as very closely allied, another regarding them as more or less indirectly related, and a third which looks on them as two totally distinct diseases. The arguments which I consider desirable to bring forward for and against the different views will be found in the section dealing with *Lupus erythematosus*.

The simplest and the most typical form of *Lupus vulgaris* is that where there are found in the skin those elements which are described as the "*apple-jelly*" or "*barley sugar*" nodules of Hutchinson. These are yellowish-brown areas about the size of a hemp seed; they may be found discrete, or they may run together to form irregular areas. They are evidently *in* the skin, and the epidermis runs unbroken over them. Their true colour is best displayed by pressing on them a piece of glass (a microscopic slide will do; I use the condensing lens of a Hartnack's microscope), for the pressure dispels any complicating hyperæmia, and no amount of pressure will

cause the typical nodule to disappear. This method, which Unna calls the "diascopic," is of great value in the diagnosis of a doubtful case.

When examined microscopically, these nodules are found to consist of a collection of those cells which Unna calls plasma cells, and which are best known in this country as epithelioid. These are aggregated into little round areas, ten or a dozen of which go to make up a clinically visible "*apple-jelly*" nodule (Fig. 28). Occasionally a giant cell may be observed among them, and very occasionally a tubercle bacillus.

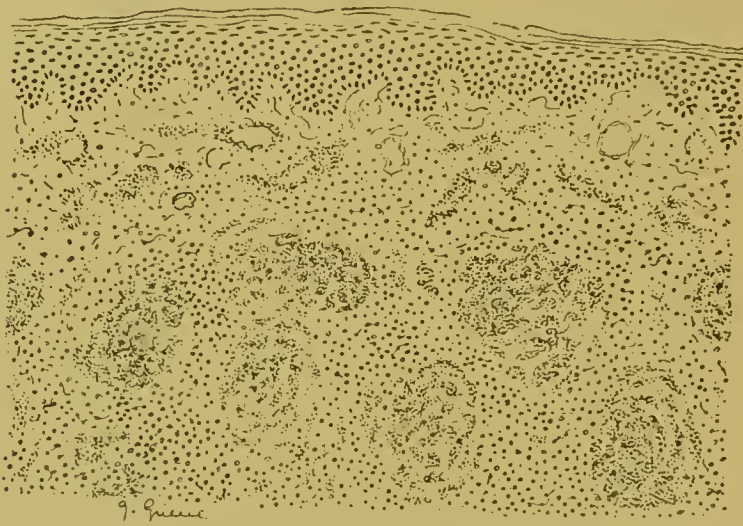


Fig. 28. *Lupus vulgaris simplex*. The corium is studded with little collections of tubercular follicles which make up the apple-jelly nodules. The vessels are dilated and the tissues between the nodules contain many leucocytes. The epithelium is slightly swollen and the horny layer is irregular; $\times 75$.

At this stage, which may conveniently be styled *Lupus vulgaris simplex*, the disease may remain in cleanly, healthy persons for an indefinite time, giving rise to no inconvenience except from its appearance, and spreading very slowly or not at all. Any part of the body may be affected, though, as afterwards referred to, lupus undoubtedly has its preferences and favourite seats. Plate XIX is from a long-standing case of almost uncomplicated lupus. The brownish-yellow "*apple-jelly*" nodules stand out very prominently, and are as usual most numerous at the margin. In the scar area over which they have passed many still remain. This is the rule. Lupus always leaves traces of its nature in the scar.

The disease, however, only exceptionally follows this simple type. The most common complication, so common as to be



M^rFarlane & Erskine, Edin^r

LUPUS VULGARIS (Simplex).

to most the typical form of Lupus, is the addition to it of the catarrhal process. Just as in catarrhal tuberculosis of the lung, the catarrh is probably due to the addition to the original disease of other organisms, so in the skin micrococci are responsible for the change which converts a merely disfiguring into a disagreeable, discharging disease. The brownish-yellow nodules become concealed by dirty yellowish-black crusts, and pus constantly exudes from the apparently raw surface. This stage of the disease has long been known and described as *Lupus exulcerans*, but from the examination of very many specimens I am forced to the conclusion that the term is a misnomer. There is no ulceration in the true sense of the word. However ulcer-like the case may appear, careful examination will disclose the fact that the surface is still covered, imperfectly it is true, with epithelium. The epithelium is swollen, distorted almost beyond recognition, but it is still there. The process is essentially one of catarrh (Fig. 29). In sections appropriately stained, we find on the

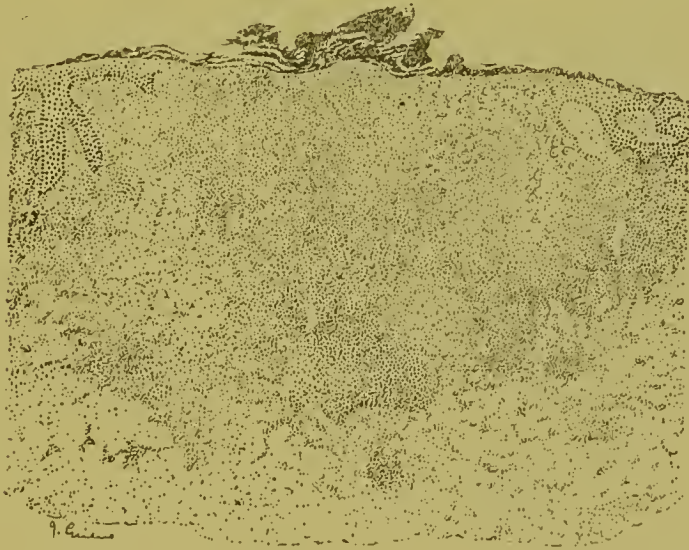


Fig. 29. Catarrhal Lupus. Leucocytes are present in such amount as to completely conceal the tubercular structure. Traces of epithelium covered the whole surface, and the overlying crust teemed with micrococci; $\times 50$.

surface myriads of cocci, and it is these to which the catarrhal process, evidenced clinically in purulent discharge and crusting, is due. It is, indeed, often enough difficult in the leucocyte-impregnated tissues to recognise the same process as in the simple variety of the disease, but a few weeks' appropriate treatment and the apparent discrepancy is cleared up—destroy

the pyococci and the catarrh disappears, leaving the simple variety of the disease.

There is yet another curious variety of Lupus, and it, too, has its analogy in the lung. This is *fibroid* lupus, often erroneously called *Lupus verrucosus*. The error is curious and inexplicable because there is a *Lupus verrucosus* which is distinctly "warty" in its character. It is much rarer than the fibroid form. Fibroid lupus is most frequently seen on the limbs and buttocks. It is exceptional on the face; in the only case I have seen in that situation, the diagnosis was so doubtful that I recommended its excision by a surgeon, on the suspicion that the disease was malignant. In it there is an excessive production of fibrous tissue, and the tubercular nodules are few in number. They also show evidence of their chronicity in the presence of (for Lupus) an excessive number of giant cells, and the prognosis of this form is exceptionally good (Fig. 30).

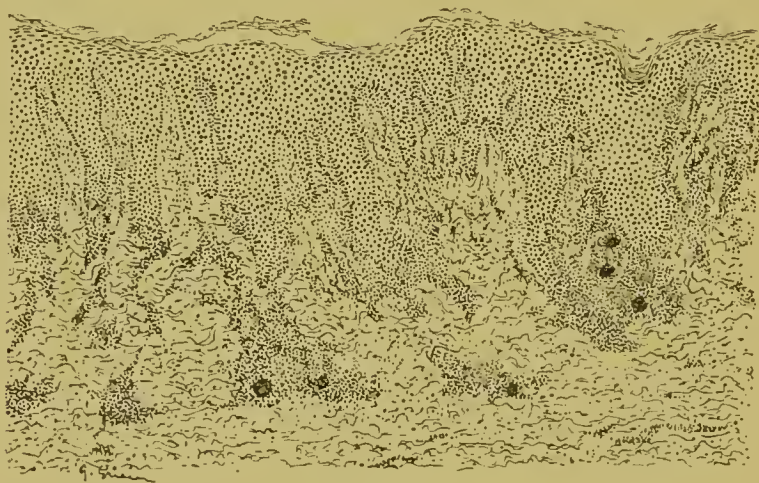


Fig. 30. Fibroid Lupus. Dense connective tissue. The tubercular areas contain numerous giant cells, and the surface epithelium is as usual somewhat increased in amount; $\times 75$.

True warty lupus, *Lupus verrucosus*, is quite conceivably due to the addition to the Lupus, of the cause, whatever it may be, which produces warts. The same growth of epithelium is seen as in warts, with long processes of connective tissue forming cores for the epidermic cylinders. As a rule the warty growth and the lupus are co-extensive, but in one case of mine, in some of the spots, the warts lasted longer than the tuberculosis.

There are yet other varieties of tuberculosis, a papillomatous

variety, and the ulcer which is called true tuberculosis of the skin, but they are so rare that it is unnecessary to give them detailed consideration here.

Lupus is most common on the face, and in a great number of instances it probably begins on the mucous membrane of the nose, and lasts there unsuspected for it may be months before it reaches the skin. Perhaps the next commonest seat is the buttocks, and then come the hands and feet. No part of the body is however exempt, and in some cases it is indeed a mystery how it should have developed in certain situations.

DIAGNOSIS.—This is usually easy. Almost always at some part of the disease the presence of “apple-jelly” nodules can be detected, and the diagnosis is never absolutely certain until they have been recognised. Not infrequently, however, they are obscured by some of the complicating processes. The catarrhal process very rarely entirely conceals them, for the borders are usually not so much affected as the centre by the catarrh. But in the warty and in the fibroid form of the disease it is often exceedingly difficult to recognise them. In all cases the use of the diascopic method is to be strongly recommended.

In addition to direct observation, a good deal of useful information can be got from the history. It is not likely that a patch of eczema, or, indeed, of any other inflammation of the skin but a tubercular one, would last for eight or nine years as these cases frequently do, and suspicions of a tubercular nature being aroused, close search will usually lead to their confirmation. The greatest difficulty in connexion with diagnosis is when a chronic ulcer occurs on the face of a patient of middle age. There are two diseases which may be confused with tuberculosis under these circumstances. These are syphilis and rodent ulcer. There are certain differences between each, but these differences must be estimated as a whole and together; too much stress must not be laid on one. Tuberculosis is most apt to commence in youth, syphilis and rodent ulcer toward middle age. The rate of progress is slow in tuberculosis, rapid in syphilis, and slow again in rodent. There is nothing characteristic in the syphilitic ulcer, but the apple-jelly nodule of lupus and the pearly edge of rodent ulcer are each characteristic if found. Rodent ulcer is nearly always single, tubercle in this situation very often so; if carefully sought for some other sign of syphilis will be found. In using the effects of treatment as a means of diag-

nosis between syphilis and tuberculosis, the trial should be a thorough one, and judgment should not be entered on the results of one bottle of iodide of potassium mixture.

There is one routine examination which should never be omitted. No case of lupus of the face should ever be allowed to go with the mucous membrane of the nose and the gums unexamined. The proportion of cases in which the gum is affected is enormous, and the proportion of cases which are overlooked, lamentable. Lupus of the mucous membrane naturally looks different from the disease in the skin, on account first, of the redness of the surrounding tissue, and second, of the moist condition in which it is constantly kept. The nodules tend to be a little elevated over the surface, and the whole area has an embossed appearance. The disease gives rise in this situation to little inconvenience, and patients are generally unaware of its existence.

PROGNOSIS.—This is by no means easy. Cases which are left to nature usually occur in the lower classes, where the added disadvantages of insufficient care, food, etc., must be taken into account. If a simple case of lupus were left to itself, and the parts kept clean, and the patient in good circumstances, the natural course would be for the disease to extend very slowly though steadily. Any disturbance of health would always lead to the risk of the catarrhal complication, with disfigurement and more rapid extension of the disease. On the other hand, cases are sometimes immensely improved by a simple change of residence to a more healthy locality, where the patient, usually a child, has the opportunity of being much in the fresh air. Indeed, it is unnecessary to waste words on this question. The prognosis of lupus is exactly the same as that of tuberculosis generally. When it is catarrhal, progress will be rapid, when it is fibroid, advance is slow. When treatment is taken into account in the prognosis, we are still by no means certain of our ground. In the first place all these other factors, such as the health of the patient, the surroundings, etc., have to be taken into consideration. When that is done we can consider the bearing of treatment directly and alone, and it must be most clearly understood by the patient that if he desires to get completely rid of his disease, which it is quite possible for him to do, he must submit himself to a prolonged course of treatment, that patience must be wanting neither on his side nor on that of his physician, and that a

certain amount of irksome detail must be attended to for years. The perfunctory surgical treatment of lupus, scraping a case and then not seeing it again for six months, has no prognosis, but if the case be carefully attended to after such an operation the chances are by no means bad.

TREATMENT.—By dwelling so definitely on the varieties of the disease and pointing out the essential differences of one from the other, my object is to make it clear that the treatment of all is not alike. Obviously the same treatment is not applicable to a case scabbed and discharging as to a hard, fibroid patch. The object of treatment is to reduce the complicated to the simple form, to get rid of the complications and to treat the disease directly. This involves a separate consideration of the different varieties. After they have been dealt with, the treatment of lupus as a whole will be considered.

Catarrhal Lupus.—This, as the commonest form of the disease, may be taken first. As has already been pointed out, this catarrh is due to the presence of micro-organisms and their products, and these must be got rid of. Though there are many methods, the simplest and most efficacious is the sharp spoon. It removes diseased tissues and organisms *en masse*, and will do in ten minutes what less active treatment will take weeks to accomplish. In using the sharp spoon in this way it is not necessary to use any force. The catarrhal tissues are exceedingly soft and rotten, and are removed with the greatest of ease. At the edge of the patch the spoon may be used a little more vigorously, but at this stage one cannot really hope to eradicate the disease.

If for any reason the patient objects to the operative treatment, a similar result may be achieved, though much more slowly, by the application of antiseptics. Brooke's ointment

R̄ Zinci Oxidi	
Pulv. Amyli	āā ʒij
Vasel ni Albi	ʒss
Hydrarg. Oleat. (5%)	ʒj
Ac. Salicyl.	grs. xx
Ichthyol	ʒxx
Ol. Lavandulæ	q.s.

enjoys a wide reputation in this connexion, but any antiseptic ointment properly applied will produce almost as good results. So, too, will another method of treatment, very popular in certain quarters, namely, the administration of thyroid tablets.

Under that substance cases of the acutely catarrhal form are converted into the simple variety.

Fibroid Lupus.—Here the complication is the excessive growth of fibrous tissue, which must be got rid of before it is possible to attack the lupus directly. Scraping is useless. No surgeon with any ordinary instrument is vigorous enough to scrape away the tough fibrous tissue. The best method by which it can be dissipated is counter-irritation. Probably blistering fluid is as suitable an application as any other, but carbolic acid, the acid nitrate of mercury, and other caustics, may any of them be used. The reaction often does more than dissipate the fibrous thickening, for a large amount of the disease proper is also removed, and what is left is now open to direct treatment.

Warty Lupus.—In this, as already indicated, the warts are rather to be looked upon as an addition than as a complication. They are best removed by the knife or scissors, although they may also be removed by various applications, such as acetic or salicylic acid. If they are present over a large surface, the best treatment is to level the part with a razor.

Lupus Vulgaris Simplex.—In dealing with the simple form of the disease (whether it has always been simple or has been reduced to this from another form) our aim is the destruction of the tubercle bacillus. The first method of treatment which may be considered is that of excision. Theoretically, excision is the best method, but, unfortunately, the practical application does not coincide with the theory. Lang, of Vienna, apparently treats all his cases, however severe or extensive, by this method, but he seems to attain a degree of success which is not even distantly approached by any other operator. I have repeatedly seen cases aggravated by excision, the disease returning in the scars or grafts, often apparently with redoubled activity. The only form of the disease in which excision seems to me justifiable is the fibroid form, and in that the prognosis is so generally good that, unless in special circumstances, it is rarely, in my opinion, necessary. If excision is to be done, it *must be thorough*. The line must extend well beyond the external evidence of the disease, and the entire skin must be removed from the part; while, if it occurs on the face, the fact that the hair follicles often extend very deeply must be borne in mind.

The next method of treatment may be described as the

directly destructive method. In this we apply to the skin drugs which have what is called a selective action, since they act very much more vigorously on the weakened, diseased lupus tissue than on the healthy surroundings. Of these the most demonstrative is arsenious acid. This is made into a paste—

℞ Acidi Arseniosi	grs. x
Cinnabar	ʒss
Ung. Rosæ	ʒss

and applied night and morning for three days. The pain is excessive, and it is often necessary to administer morphine. The whole region swells up, often to an alarming extent, and at the end of the third day the lupus nodules are seen as little black sloughs dotted here and there in an intensely hyperæmic, swollen skin. Under soothing remedies this swelling goes down, and so much of the disease is removed. The disadvantages of the method are, first, the pain and swelling which it causes, and, second, the unsightly scars which often result. Salicylic acid has a similar action. In no form is it so efficacious as in Unna's salicylic creasote plaster. Ointments with a similar composition are not nearly so satisfactory, and the plasters are always to be preferred. Their strength varies. Probably the best guide in the selection of plaster is the capability of the patient to stand pain. If he is very sensitive, the weaker ones should be used, but the stronger ones are the most efficacious. The plaster should be applied night and morning, and in a few days the lupus nodules stand out in the form of whitish sloughs, which can be wiped away with cotton wool. Now comes up the question of what is to be the further treatment. Many at this stage apply soothing ointments, as in the arsenical method, but if the patient has the fortitude to persevere in the use of the plaster, the results are much more thorough, lasting and satisfactory. Often, however, the pain is so great that the patient refuses to continue, and some other application must be used. Nothing is gained by promoting too rapid healing of the little ulcers in the skin. Indeed, the longer the part is kept open and discharging, the longer does the benefit seem to last. Dry iodoform or a pretty strong iodoform ointment may be rubbed into the part; probably the iodoform destroys some of the disease which still persists. By several courses of this plaster the nodules may be so reduced in number as to be open to individual treatment. It is at this period, after the

nodules have been reduced to a manageable number, that methods such as the thermo-cautery are applicable. The ordinary Pacquelin point is too broad to be of any benefit at this stage. The point must be so fine as to enable one to pierce the individual nodules, and the best instrument for this purpose is Unna's "microbrenner" in which a copper point is fused on to the end of the platinum. With this any visible nodule is pierced and immediately destroyed. The galvano-cautery is, I believe, more useful, but it is of course not always available. Another and a simpler method is the puncture of each nodule by a pointed wooden match dipped in some caustic. The favourite caustic for this purpose is the acid nitrate of mercury, and the simplicity of the method is a strong recommendation. The operation must be repeated and repeated until every single nodule has disappeared, and only then should the patient be released from observation, with orders to report himself at the first sign of recurrence.

The disease may also be attacked indirectly. Probably the two methods, the direct and indirect, are always more or less combined, though the one usually predominates over the other. The indirect method aims at setting up such a reactionary hyperæmia in the skin that the tubercular material is destroyed indirectly.

When the disease affects the limbs the congestive method of Bier may be tried. This consists in applying a ligature so as to produce prolonged congestion of the part, and is in some cases as useful in lupus as it is in tuberculosis of the joints.

More commonly the reaction is induced by the application of some irritant. I look upon the carbolic method as almost entirely indirect. The slough produced by its destructive action is so superficial that it notoriously hardly leaves any scar, and therefore its chance of penetrating down to the diseased nodules is very small indeed. It sets up, however, a considerable reaction, and under its application the nodules grow less and less in number and size. The acid nitrate of mercury may be used in the same way. In its use a caution is necessary. The freshly prepared solution acts with a vigour which is often disastrous, so that one used to the results produced by a solution which has been the companion of years, will sometimes produce, by the free application of a fresh solution, results much beyond his desires.

A very valuable application of this nature is the *Liquor antimonii chloridi*. It does not produce such severe imme-

diate results, but after a few days' application, it being painted on daily, the part generally becomes so tender that it must be intermitted for a few days. I do not know any better application to entrust to the hands of a patient of ordinary common-sense than the liquor antimonii chloridi, and it has the further advantage that it may be applied to the fibroid form and thus remove both the complication and the disease at once. Another very valuable application is *Pyrogallic acid*. This may be applied in ointment, in spirituous solution, or in collodion, in each case the proportion being 1 in 10. The reaction is often considerable, and the results should be carefully watched.

In the selection of any of these methods one must be guided by a variety of considerations. The cosmetic effect is one of the most important. If the disease is on the face of a girl, one is bound to be more considerate of the resulting appearances than in the case of a male. In a working man vigorous scraping with the sharp spoon may be used. While this often results in somewhat unsightly hypertrophic scars, the rapid removal of the disease is in such cases of most importance. In the case of a girl the spoon should only be used lightly, and be directed to the removal of the diseased products rather than to the removal of the disease itself. Arsenious acid, too, though thorough, is often followed by unsightly scars, and should not be used when appearance has to be considered.

The applications which are followed by the best cosmetic results are salicylic acid, liquor antimonii chloridi, and pyrogallic acid, probably in the order named. If the disease is very extensive, of course the possibility of the absorption of any drug must be considered, as must the painful effects which they each produce. In such a case, probably antimony is as good as any other treatment, different parts being painted in succession. In the case of children, the element of pain must be taken into consideration. It is obviously absurd to expect a child to put up with the constant boring pain of salicylic acid and some of the other preparations, and in children, I believe, speaking generally, that the best application is carbolic acid. The pain is severe for the moment but rapidly vanishes, and even though it may not be the most suitable application to the form of the disease, the fact that a patient is behind that, as Mr. Morris sagely remarks, must never be forgotten.

INTERNAL TREATMENT.—There is no specific for Lupus

any more than for Tuberculosis in general. The only medicine which seems to me to have any effect on the disease is cod-liver oil, which by improving the general condition of the patient enables him more successfully to combat the ravages of the bacillus. Thyroid has already been alluded to. It certainly dissipates the catarrhal products, but has little further influence. Creasote, arsenic, chloride of calcium, and other drugs which have been at one time or another recommended in the disease have, so far as I can see, no influence on it whatever.

There are one or two other forms of Tuberculosis of the skin which are not included under "Lupus."

Scrofuloderma* is the term used to describe those cases of tuberculosis of the skin where the infection proceeds from a tuberculous focus beneath. Thus it is most common over broken down tubercular glands, and in the neighbourhood of fistulæ from tubercular bones. The appearances are familiar enough. The reddened skin, often with a bluish tinge, the thin ragged edges, the comparatively scanty discharge, and the tendency to fibroid thickening in the neighbourhood, coupled with the chronic course of the disease, make up a picture which is easily enough recognised. The infection of the skin being secondary, this disease is usually of secondary importance. The under-lying disease is the essential element, and on its cure depends the progress of the skin malady. Sometimes the infection develops into true Lupus, which may persist after the under-lying disease has disappeared, but as a rule the cure of the one is associated with the cure of the other.

TREATMENT.—This really belongs to the surgeon. The case should be taken in hand by him long before there is any risk of infection of the skin, and with the improved modern methods of dealing with tubercular glands, the disfiguring scrofulodermata of the neck are gradually becoming less and less frequent. When the disease has infected the skin and the focus beneath is comparatively small, a thorough scraping will in many cases successfully eradicate the disease. Scraping in Scrofuloderma is followed by a success which does not follow it in the treatment of Lupus. But it is well to recall once more what has already been said, that these

* From *scrofa*—a sow; and *δέρμα*—the skin. Scrofulous glands on the neck were supposed to make the neck thick, like a pig's.

cases are in the province of the surgeon, and if the medical attendant is not prepared to take them thoroughly in hand and treat them radically, he ought to hand them over to some one who is. Dermatology has suffered somewhat in repute from the tendency of some of its exponents to trifle with some of its serious diseases.

The other forms of tuberculosis are rarer, and hide their identity and nature under other names.

Erythema induratum serofulosorum is an affection almost confined to young women or girls whose occupation involves standing. It appears only on the legs, usually at the lower part of the calf. A nodule develops below the skin, takes on a livid bluish colour, increases in size, and ultimately breaks down with the sloughing of a considerable part of the surface. Clinically the resemblance to a gumma is very great, and cases are very often incorrectly diagnosed. The patient is put to bed, iodide of potassium is freely administered, the patient has the advantage of rest and hospital diet, and recovers. The credit is then given to the iodide of potassium, and the physician congratulates himself on the correctness of his diagnosis. As a matter of fact, cases do equally well if the iodide is omitted, and of the really tubercular nature of the affection there is now little doubt. An excellent account of the disease may be found in the "British Journal of Dermatology" for 1893, by Dr. Colcott Fox.

The seat of the disease, the age of the patient, who will usually be found to have spent a great deal of her time standing, and the peculiar livid blue colour of the earlier lesions, make the diagnosis comparatively easy.

The disease with which this is most easily confused is the gumma, and tertiary symptoms in a patient of seventeen are at least very exceptional. Erythema nodosum, which is also common in young girls, develops more rapidly, the pain is greater, the nodules are more numerous and are generally situated on the front of the leg, whereas those of Erythema induratum are more common on the sides and back of the calf.

TREATMENT consists in rest in bed, elevation of the limb, generous diet, and the administration of cod-liver oil.

Lichen Serofulosorum.—This is an eruption which appears on the trunk of children who are suffering or will suffer from some form of tuberculosis. Most commonly it occurs in those who have either bone or lung disease, and in using

the expression "will have," one of course labours under the difficulty that the recognition of the skin disease directs attention to the possibility, and leads to the sometimes successful treatment of a tuberculosis which may not be otherwise recognisable. In this respect a knowledge of the disease is important, as it may be the first warning of the presence of tuberculosis.

The eruption is usually on the trunk, although in exceptional cases it may spread to the limbs and face. The form it assumes varies. Some of the papules very closely resemble Lichen in their shape, and have the burnished top which is so associated with that disease. But, as explained under Lichen, this is merely due to mechanical causes, and the papules have not the lilac colour of that disease. Others of them are pustular, while others again are covered with a tiny crust. Their distribution is irregular, but they show a tendency to group themselves in circles and segments of such. This is merely due to the accident of a number of pustules being situated in the hair follicles, whose natural arrangement they naturally follow. The lesions are, however, by no means restricted to the follicles, and for this reason the term of *Folliculitis scrofulosorum*, suggested by Unna, is no great improvement on the one which at present is in use.

DIAGNOSIS.—The occurrence in children, the unusual nature of the rash, in which papules and pustules are arranged in circles and segments of these, and the presence of some other evidence of tuberculosis, usually make this easy.

TREATMENT.—No treatment is so successful as that originally introduced by Hebra, which consists in the internal administration and the external application of cod-liver oil.

LEPROSY.

(λέπρα—*leprosy*; from λεπρός—*scaly*.)

Leprosy is a chronic disease caused by the growth of the lepra bacillus. It appears in two forms, which are best distinguished as the *nodular* (tuberos) and the *maculo-anæsthetic*. The division into nodular and anæsthetic, suggested by Danielssen and Boeck, is hardly strictly correct, because the nerves are affected in both forms, while the macules are invariably present in the anæsthetic form. Mixed leprosy, too, is an unnecessary term. All cases of leprosy are mixed, and the one may pass into the other;

indeed, the nodular almost invariably passes into the anæsthetic if the patient lives long enough.

Leprosy is found in many parts of the world under such different circumstances that it is evident that climate can have little to do with its development. It may be said, speaking generally, that the more civilised a country, the higher the standard of living of its inhabitants, the less likelihood is there of leprosy.

The bacilli, which were discovered by Hansen in 1884, are straight rods very closely resembling in appearance tubercle bacilli. They have the same irregular staining, clear spaces being left, and the same reactions to staining reagents, with the difference that the leprosy bacillus stains more readily in the cold than does the tubercle bacillus. Many attempts have been made to cultivate them, and a few claim to have done so successfully. No successful inoculation experiments on animals have been made, and Arning's famous case, where the disease was inoculated on a criminal, unfortunately loses some significance from the fact that the criminal's relatives were not free from the disease.

Heredity has long been a favourite theory in connexion with leprosy. It is probable that there is not even the same heredity in leprosy that there is in tuberculosis, namely, the inheritance of a constitution which is not so able to resist the attacks of the disease as it should be. Clearly the children of leprous parents have greater opportunities than those of healthy ones of acquiring the disease. Although it is difficult to prove, in connexion with a disease where the incubation period may be as long as seven years, that leprosy is contagious, the fact has nevertheless been demonstrated to the satisfaction of most scientifically-minded people. The careful statistics of the leper department of the Norwegian Government clearly show that the more cases at large in a district, the more new cases are likely to develop. Hutchinson's theory that the disease is caused by eating putrifying fish is held by no one but himself.

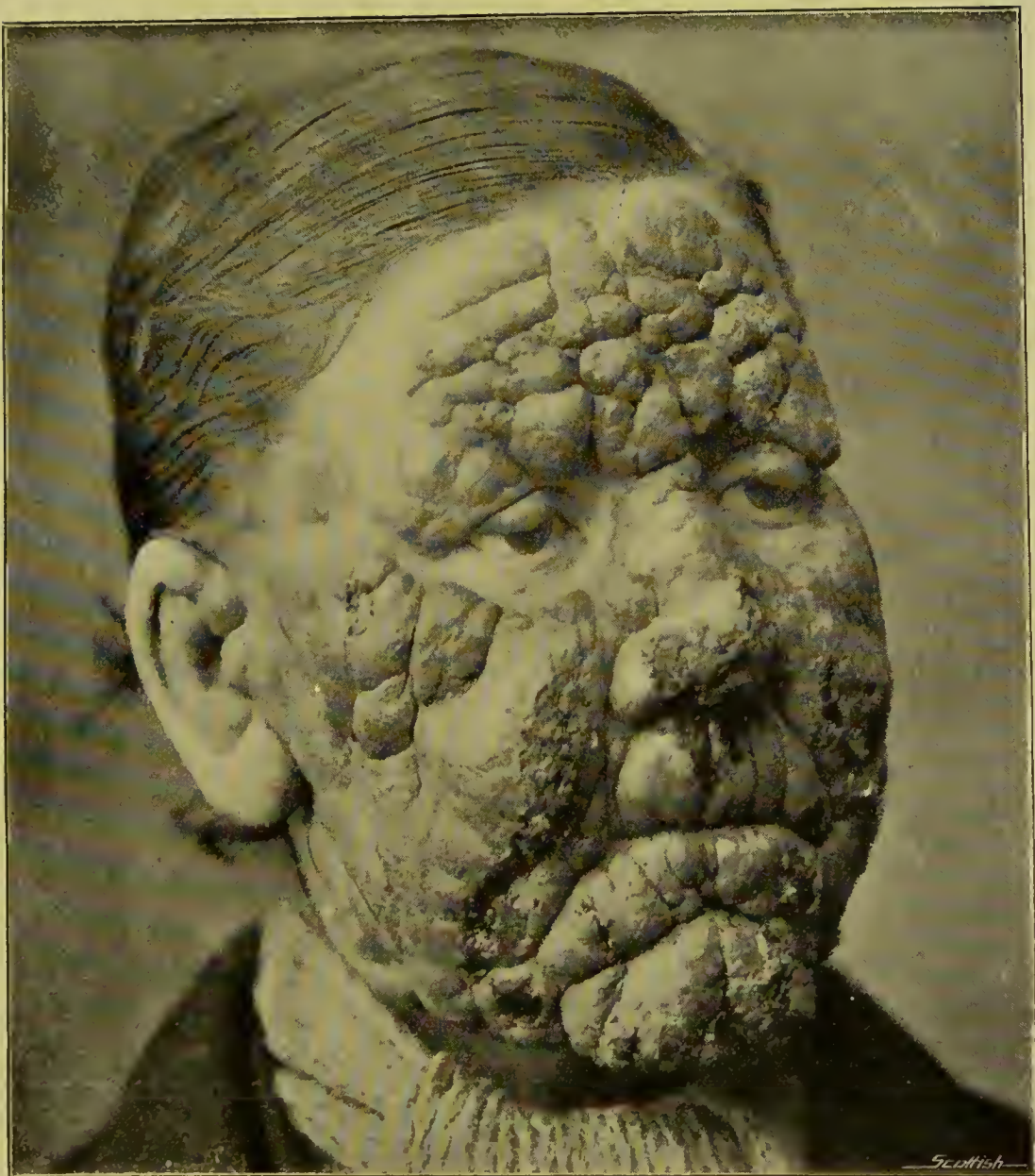
Nodular Leprosy.*—In this form the lesions appear first upon the skin. As the name indicates they take the form of nodes, varying in size. They are firm, usually semi-spherical in shape, are seated in the cutis, and the epidermis, being stretched over them, is shiny. At first they have the colour

* Plate XX is from a photograph given me by Dr. Armauer Hansen.

of the skin, then they become reddish, and later yellow or brown. Their favourite sites are the face, backs of the hands, and the extensor surfaces of the wrists. In countries where the inhabitants go barefoot, the dorsum of the feet and lower part of the calves are often first attacked. The eyebrows are almost always markedly affected, and it is this affection which gives to the patient the leonine expression so associated with the disease. The nodules are sometimes isolated with deep clefts between them. Sometimes the infiltration is diffuse, and the eyebrows are thickened as a whole. The hairs usually drop out. The lobes of the ears are very often swollen with leprous infiltration, and affections of the eyelids are common. The mucous membranes of the mouth, nose, larynx and pharynx are also involved, all the soft parts of the nose may be destroyed, but the bones are not affected. The infiltration in the larynx is often so great as to threaten suffocation and to require tracheotomy. The lymphatic glands draining the leprous region are always diseased, but they never suppurate. The nerves are affected later, the facial, radial, ulnar, median and peroneal being always attacked. The affection is unequal, being most marked where the nerves run superficially over bones. The disease is also found in the testicle, the liver and the spleen. Fresh outbreaks may occur at intervals, due apparently to a shower of bacilli reaching the blood stream.

The course of the disease varies in different patients. In some the eruptions are very few and far between; in others they recur very rapidly. The more frequent they are, the more vigorous is the growth of the individual nodules. Amyloid degeneration of the internal organs is very often the cause of death, and in leper hospitals many die of tuberculosis. The individual nodules are rarely absorbed, usually they burst and ulcerate, and if no fresh eruptions appear the patient may recover. The average duration of life is eight to nine years after the outbreak of the disease.

When a section of a leproma (as the nodule is sometimes called) is properly stained and examined under the microscope, the bacilli are found in millions. The generally adopted view is that these bacilli are intra-cellular, the cells they occupy being usually connective tissue derivatives. Hansen showed me a section where they were inside a white blood corpuscle. Unna, on the other hand, maintains that the structures in which the bacilli are have only the appearance of cells, and are really masses of mucoid material



NODULAR LEPROSY.

secreted by the bacilli lying free in the lymph spaces. All are agreed, however, with regard to the relationship of the bacilli to each other. They are closely packed together, often in parallel rows like little bundles of cigarettes. In scrapings from a section the bacilli may be found in numbers, and most authorities regard the movements seen in them as molecular and not inherent in the bacilli.

Maculo-anæsthetic Leprosy.*—This is a much more benign form of the disease than the other, and the prodromal stage, with debility, rheumatoid and neuralgic pains, sometimes lasts for years. The spots develop sometimes unnoticed, or they may appear suddenly with marked fever. They vary in shape and size, but have a general tendency to be rounded or ringed. They are not at first anæsthetic, and only gradually become so. The back and limbs are very often the seat of these macules. The symmetry which is claimed for them by some, disappears on cross-examination, and the discovery of bacilli in them has finally disproved the theory that the eruption is vaso-motor. The lymphatic glands in relation to the diseased regions are always swollen. The nerve affection which is so prominent in this variety of the disease is a leprous neuritis. At first the inflammation of the nerve is accompanied by neuralgia and general hyperæsthesia, but as time goes on the acute symptoms settle down, fibrous tissue develops, and anæsthesia advances. As in the other form, the affection of the nerves is not equal, but most marked over the bones. Trophic disturbances, such as the formation of bullæ, ulcers, etc., supervene. The nails share in the trophic changes, the secretion of sweat is diminished, and the hairs fall out. The muscles are not themselves affected, and their weakness is due to secondary atrophy. This is most marked on the hands, forearms, feet and legs, and on the face. The interosseous muscles atrophy, and the “main en griffe” is developed. The orbicularis oris and the orbicularis palpebrarum are paralysed, and the mouth and eye are secondarily affected. The muscular sense is preserved, and patients can do needlework so long as they can move the muscles. Many of the so-called trophic affections are indirectly due to the anæsthesia, and are the result of injuries which are not perceived by the patient, who may, for example, sit in front of

* Plate XXI is from a case under the care of Dr. Elder, in Leith Hospital. The patient is a sailor from the north of Scotland.

the fire perfectly comfortable, while his trousers are burned through by the heat. Hansen has never succeeded in finding bacilli in the pemphigoid bullæ. The phalanges atrophy and necrosis often occurs. It is interesting to note with what impunity operations for necrosis may be carried out without anæsthetics and with complete success. The patient only feels pain in the bones.

Cases of maculo-anæsthetic leprosy last for ten, twenty, or even thirty years, the neuritic symptoms becoming more and more prominent in unfavourable cases. Many cases in time suffer from nothing but anæsthesia; the leprosy has gone.

When a recent macule is examined under the microscope, the bacilli are found in considerable numbers. The older the specimen the fewer are found, sometimes a very careful search being requisite to find any. The same is true of the affected nerves. In a *post-mortem* examination the bacilli are very rarely found, but Arning found them in a piece of ulnar nerve removed during life. The medullary fibres have largely disappeared; the nerve is practically transformed into fibrous tissue. The muscles contain no bacilli at any stage of the disease, the muscular affection must therefore be looked upon as a secondary one due to the neuritis. The spinal cord when examined shows degeneration in the posterior columns.

What determines the variety in any given case is quite unknown. The proportions between the two vary remarkably, and, according to Hansen, the anæsthetic cases are more numerous where the climate is dry, an observation which would seem borne out by experience in the dry countries of the East.

DIAGNOSIS.—The diagnosis of advanced cases of nodular leprosy is very easy, and it is generally when the disease is fairly advanced that the patient seeks advice regarding it. In suspected cases where the disease is not so advanced, the first signs of it are to be sought in the infiltration of the eye-brows and the ears. If doubt still lingers, it can be set at rest by the demonstration of the bacilli. The most satisfactory method is to excise a small portion of a nodule and cut sections of it, but they may sometimes be found in the fluid of a blister artificially induced.

The maculo-anæsthetic form is by no means so easy to

PLATE XXI.



MACULO-ANÆSTHETIC LEPROSY.

diagnose, and cases are often overlooked when they turn up in countries where leprosy is not familiar. Many of the cases present a superficial resemblance to Psoriasis, although scarring is generally present. The sensation of growth, which is present in this disease as in syphilis, is one means of distinguishing the two; the development of anæsthesia in the centre of the patch, the enlargement of the lymphatic glands draining the affected surfaces and the resistance to treatment all help to establish the diagnosis. The thickening of the ulnar and peroneal nerves is another assistance. If there is still doubt, excision may be practised. In estimating the amount of loss of sensation the test used must be a delicate one, for the anæsthesia is in the skin, and the sensation of deeper pressure is not lost.

PROGNOSIS.—Both forms *may* recover, all the leprous products disappearing. In nodular cases this is very exceptional, but in the maculo-anæsthetic it is quite common. In reference to Hansen's statement that "recovery is the almost invariable result in the maculo-anæsthetic form," it must be borne in mind that "recovery" refers to the leprosy, and that what is left is usually what Hansen describes as "only a miserable remnant of a human being."

TREATMENT.—The treatment of leprosy leaves much to be desired. The number of remedies recommended is large enough, but those which are really valuable are few. Salicylate of soda is the drug which Danielssen believed to be of most value. He commenced with doses of 15 grains four times a day, and gradually increased it. Chaulmoogra oil has a considerable reputation. It is given internally and applied externally, and many observers have noted improvement under its use. Arsenic is stated by Hansen to do more harm than good. It leads to diminution in size of the nodules, but this is merely a part of the general emaciation which its too free administration causes, and when the patient recovers his condition after the stoppage of the arsenic, the nodules recover their size. Ichthyol is used both internally and externally by Unna, and is sometimes beneficial, and Crocker claims to have got remarkable results from the injection of perchloride of mercury. Iodide of potassium appears to be always injurious, and, indeed, Danielssen used it as a test in cases which were apparently cured, for if any disease remained, the iodide of potassium seemed to bring it out.

Surgical methods are often required. Nerve stretching has apparently sometimes been successful in relieving the symptoms. When nodules occur in the sclerotic, and are advancing towards the pupil, the cornea should be divided in front of them; the wall of infiltration seems to prevent further advance. According to Hansen, the main elements in curing the disease, or rather in allowing it to get better, are to put the patient in as good circumstances as possible, and to use all measures of personal cleanliness.

SECTION VI.

NEW GROWTHS.

These may be divided according as they are *malignant* or *benignant*, and sub-divided according as they are *epithelial* or *connective tissue* in origin.

CARCINOMA.

Cancer of the skin appears in a variety of forms. It may be secondary to cancer of some other organ, when either multiple nodules may be present, or it may take the form of "Cancer en cuirasse," a diffuse carcinomatous infiltration of the skin, which is occasionally primary. Under most circumstances these cutaneous manifestations are of only secondary importance.


The common primary cancers of the skin are two, the Epithelioma and the Rodent Ulcer.

Epithelioma.—This is fully dealt with in all text-books of surgery and need only be briefly referred to here. Commencing as an abrasion or a small ulcer, near the junction with some mucous membrane, or, if elsewhere, usually due to the action of some definite irritant, *e.g.*, paraffin, it rapidly increases in size, attacks the deeper structures, infects the glands and, if not speedily dealt with, leads to the death of the patient. The epithelial cells go through their ordinary metamorphosis, and characteristic horny perles—cell nests—are developed here and there in the tumour.

Rodent Ulcer.—In many text-books of surgery this form of cancer is not sufficiently discussed; in particular, the early appearances of the disease are not described in enough detail to enable those unfamiliar with it to recognise the disease at this, its most important stage.

The name is in many respects unfortunate. The disease has always lasted some time before it is either "rodent" or an "ulcer." It commences as a small nodule in the skin, which raises the epidermis over it, and this being stretched, takes, as it always does under such conditions (*Lichen planus*, *Molluscum contagiosum*), a shiny, burnished mother-of-pearl appearance.

While the general statement, that in the great majority of instances it appears on the face above the level of the mouth, and Jacob's, that it appears in the neighbourhood of the eye, are quite correct, probably still greater precision may be attained. In a very considerable experience of this disease I have found that nearly 70 per cent. of the cases are on one of two situations, the relative proportions being about 5 to 3. These are, the border of the nose just where it rises from the cheek, about the juncture of the upper and middle third, and the outer angle of the eye. Of the remaining 30 per cent. of cases, probably 25 per cent. occur on other parts of the face, and 5 per cent. on other parts of the body. I have seen it on the forearm (twice), on the back, the hand, the pubis, and on the vulva, in each of these cases the diagnosis being confirmed by histological examination.

The nodule has a glistening, translucent appearance, most comparable to that of the horn of a light-coloured cow. At this stage it may long remain. When it commences to grow it does so from this centre, and as it extends at the periphery, the centre flattens down, and we have a little hollow surrounded by an elevated ridge, which may be compared to a lake surrounded on all sides by hills. The edges slowly advance, the centre flattens down, and this may go on until an area as much as half an inch in diameter is enclosed by the walls. Usually before this size is reached the surface gives way either wholly or in part, and an ulcer is at last developed. Plate XXII shows very distinctly this partial ulceration, and the rounded, elevated, advancing border of the growth. When the whole of the surface sloughs, and the ulcer is continuous right up to the border, we have the typical rodent ulcer and the typical "rolled" edge, when the appearance on section resembles that of the figure 5, laid on its side with the tail removed, , the stroke representing the ulcer and the loop the "rolled" edge. The ulcer has a finely granular surface, the discharge is comparatively slight, and if carefully dressed it may temporarily scar over. If left alone the disease steadily progresses, attacking and destroying every structure which comes in its way, and ultimately leading to death from exhaustion, hæmorrhage or meningitis.

Metastasis is very rare, but is not unknown, and more than one case has to my knowledge developed cancer of some unreachable organ and terminated fatally.



RODENT ULCER.

The disease differs from epithelioma in very many ways; it commences differently, it very rarely metastatises, and it is infinitely more chronic in its course.

When sections are examined the difference in structure is at once evident. Whereas in epithelioma the new growth is very evidently continuous with the surface epithelium, in rodent the *evident* connexion is very slight. When it does develop from the surface epithelium, and I admit that in some cases it does, it very soon takes on an independent course, and has a prolonged duration, *below* the epidermis, before it once more comes to the surface as an ulcer. This is not the place to discuss the various and conflicting views as to the origin of the growth. Probably all are partly right, and the disease may take its origin in the rete, the hair follicles, the sebaceous or coil glands. I believe, however, that Sir Benjamin Brodie was correct when he drew attention to its very frequent origin from moles. The structure of these growths very often closely resembles that of many rodent ulcers, and although moles are usually described as consisting entirely of connective tissue elements, that view is in all probability wrong (see page 214).

The specific cells of rodent ulcer are small, closely packed together, and arranged either in alveoli or in long, thin processes. While one or other of these architectural plans is mainly followed in any given case, both arrangements are often found. When in alveoli they very often have a peculiar "whorled" arrangement, and although in the centre of large masses they may undergo degeneration (probably colloid), they do not, except in very exceptional instances,* undergo any cornification and form cell nests.

Fig. 31 is a section of a portion of the growth shown in Plate XXII, and illustrates very well the appearance of a typical Rodent Ulcer.

DIAGNOSIS.—If the case is seen in the early stage before any central depression has formed, it is difficult to distinguish it from an unpigmented mole. If, however, the growth is increasing in size—and the patient is hardly likely to seek advice unless it is—it is well to remove it on chance.

When the central flattening has occurred I do not know of any other condition with which it can be confounded.

* Taking together my own and other specimens which I have examined I must have seen over 150, and I have only twice seen cell nests.

The reason it is not more often diagnosed at this stage is that the term ulcer is so unfortunately associated with the disease.

When ulceration has occurred it may be confounded with syphilis and tuberculosis. From the former it should be easily separated. A syphilitic ulcer will reach a size in weeks which it will take a rodent years to attain. Itching, which is usually strikingly absent in all syphilitic manifestations, is generally the only complaint that a patient with rodent ulcer has to make. Pain is remarkably absent even in advanced cases.



Fig. 31. Section from the case shown in Plate XXII. The section is taken from a part which was not ulcerated and shows the typical collection of cells, some of which have a "whorled" arrangement; $\times 50$.

While both ulcers may skin over under simple cleanliness, the syphilitic one will remain scarred, while the disease spreads; the rodent scar invariably breaks down again. Too much stress should not be laid on the effects of treatment. The late ulcerating syphilides are by no means too ready in their response to it.

From tuberculosis the diagnosis is much more difficult, and I have to confess to having on two occasions removed tubercular ulcers under the belief that they were rodent.

A great deal too much has been made of the age at which the diseases respectively attack the skin, and the statements that Lupus is a disease of youth and Rodent one of age are neither absolutely in accord with my experience. The two cases above referred to were aged, one twenty-five and the other fifty-five, and in both the ulceration had a duration less than two years. If the age at which the process first commenced

is taken, it will be found that Rodent usually commences about the age of forty. The statistics which show a greater age usually deal with the age of the patient at the time of operation, and ignore the fact that the disease may have lasted ten, fifteen or more years. Lupus, too, is by no means so exclusively a disease of youth as is so dogmatically laid down by the Vienna school. Quite 10 per cent. of all cases develop in adult life.

The points of differentiation on which stress is to be laid are: (1,) The history. If the word of the patient can be depended on, this is of considerable value, for the translucent prominence of the early Rodent differs very much from the reddish brown, flat lesion of Lupus. (2,) Direct observation. It may be that the Lupus has taken on the fibroid type (see "Lupus," page 188), and is elevated above the level of the skin; it may feel hard, but it always lacks the abrupt, rounded, elevated border which is so characteristic of rodent. In ordinary cases it is almost always possible to demonstrate some of the brownish-yellow nodules which are essential to the absolute diagnosis of Lupus. If it is impossible to decide the matter, it is best to err on the safe side, and treat the disease as if it were Rodent.

PROGNOSIS.—Untreated cases go on steadily from bad to worse, and invariably prove fatal if the patient does not in the meantime die from some other disease. If diagnosed early, and properly treated by *thorough* excision, there is no tendency to recurrence, and it is with the view of pressing the point of early diagnosis and thorough removal that I have given to this disease an amount of space which may to some appear disproportionate to its frequency.

TREATMENT.—Very few words suffice for this. Free excision by the knife should be practised in every case. If this plan were generally followed we should never see those cases which are beyond the surgeon's reach. The incision should be wide and deep. Partial operations are never satisfactory, and nothing except complete removal should be seriously considered.

If a case is really beyond surgical help, then simple clean dressing is all that remains to be done, but I have not yet had a case which I could not get one or other of my surgical colleagues to take in hand.

XERODERMA PIGMENTOSUM (Kaposi's Disease).(ξηρός—*dry*.)

This is one of the rarer diseases of the skin, and none of its numerous names are altogether satisfactory. It is one of the family diseases, and usually affects all the members of one sex. The first symptom noted is a dry roughness, which appears as soon as the child begins to run about in the open air. About the age of three or four a profuse freckling appears on the exposed parts (face, neck and hands). This freckling, though it does not disappear in winter, is very much worse during summer. Then the skin begins to shrink; little areas become white and atrophic, and for this reason Crocker prefers to name it *Atrophoderma pigmentosum*. The shrinking of the skin draws down the eyelids, giving the child a peculiar woe-begone expression. There next develop teleangiectases, or dilatations of the capillary vessels, which add their share to the variegated appearance of the patient's face. The next symptom consists in the development of little mole-like or warty growths, which, if left alone, rapidly take on a malignant action, destroy all the tissues in the neighbourhood, and lead to a fatal result. This result is due to the exhaustion produced by local destruction; the tumours do not metastatise.

The true nature of the disease is unknown. Exposure to the sun has very evidently an important bearing on it, but beyond that we know nothing. The tumours are, according to Unna, in all probability merely the development of hitherto unnoticed or unnoticeable moles (*q.v.*), and if each of them is removed as soon as it is observed, the risk of rapid termination is very much minimised. It would seem as if the efforts of the skin to protect the deeper tissues from the sunlight in some cases were ill-directed, and as if, instead of the ordinary bronzing of the face, pigmentation was concentrated in small areas.

PROGNOSIS AND TREATMENT.—The prognosis is very grave, and the duration of the disease depends entirely on the care which is taken of the patient. If he is protected from the sun by wearing a brown veil and gloves, and if the little tumours are removed as soon as they are observed, he may live for many years, but all cases ultimately terminate fatally.

PAGET'S DISEASE OF THE NIPPLE.

This affection consists in a cancerous inflammation* of the nipple and areola, and appears in middle-aged women. The surface is dark red, granular and moist. Some itching is felt, which sometimes alternates with pain. Sometimes crusts appear, and thus the red granular surface is concealed. The disease may last in this form for years, but ultimately the carcinomatous process spreads to the breast itself.

DIAGNOSIS.—This is, of course, of the utmost importance, for on early diagnosis often depends the patient's life. The only disease with which it can be confused is eczema. Eczema of the nipple is practically confined to women at the nursing period of life. Though there is often some degree of infiltration of the skin in eczema, there is in this disease a peculiar hardness, indeed, the hardness associated with epithelial growth generally. M'Call Anderson compares it to the feeling of a penny felt through a piece of cloth. Eczema is associated with more itching than is Paget's disease, and probably fissures are more common in the former. At the same time it must be admitted that the diagnosis is often very difficult, and in such a case occurring in a woman over fifty it is probably safest to assume that the more serious disease is present.

One or two cases have been recorded where a similar affection appeared on other parts of the body.

TREATMENT.—Treatment consists in the removal of the entire breast. Partial operations are never satisfactory.

MELANOTIC CARCINOMA.

Though usually described as sarcomata, most melanotic growths are carcinomatous. Their structure is difficult to investigate on account of the deep pigmentation, but when this is removed by appropriate means, a carcinomatous structure can generally be made out. Melanotic cancer begins in a mole which has previously existed in a quiescent state. Some unknown irritant excites rapid growth, and the disease spreads to other parts of the skin and to the internal organs. The fingers or toes are quite frequently the seat of

* Unna regards Paget's disease as an inflammation, not in itself cancerous, which, however, prepares the ground for cancer so successfully that in most cases it develops.

an almost unnoticed mole, and it is sometimes difficult to discover the primary cause of a profuse eruption of melanotic nodules. For the dermatologist the interest lies in the early stage when the mole first shows signs of irritation, for it is then that the question of treatment comes up for consideration. It can not be too definitely laid down that there is only one treatment for an irritated mole, namely excision. If the patient objects to this, the mole is far better left alone than treated with any irritating caustic. As a rule, even the promptest interference is too late. The gravity of the prognosis of melanotic cancer is impossible to over-estimate. When a number of melanotic nodules have developed, it is probably as well to leave the case alone. Operative interference of a partial kind generally aggravates and spreads the disease.

There is much to be said for the removal of any pigmented mole which is in any situation where it is exposed to irritation. Removal can do no harm and may avert trouble

SARCOMA.

Both the spindle and round celled Sarcomata may occur in the skin, where they may either be primary or secondary. As already stated, most melanotic growths are carcinomatous, though one is not prepared altogether to deny that a sarcoma may be pigmented.

Unless promptly treated, the prognosis is of course extremely bad. The sarcoma should be excised whenever the nature of the tumour is recognised. When it has become very widespread and is beyond the reach of surgical treatment, the subcutaneous injection of arsenic is sometimes useful. The injections need not be made directly into the tumours. The drug may also be given by the mouth, though with less benefit.

VERRUCA.

(*Verruca—a wart.*)

Warts are little tumours composed mainly of epithelium, each division of which contains a connective tissue core. They appear on any part of the surface, and are, in all likelihood, due to some contagion, the nature of which has, however, not yet been discovered. Their appearance is so familiar that it is unnecessary to describe the ordinary wart.

The plane or flat wart is not so familiar. It is not uncommon on the hands, and consists simply of a thickening of the epithelium, which does not divide into processes, and consequently does not project in a cauliflower manner over the surface.

The best way of getting rid of warts is to snip them off with scissors. If this plan be adopted all the lesions should be treated at a sitting, and if the part be frozen, the pain is comparatively unimportant. If this method be objected to, salicylic collodion (a drachm to the ounce) may be applied daily. This gradually destroys the redundant epithelium. Acetic acid and more powerful caustics are recommended by some. They distribute the pain over a greater period of time and are not nearly so satisfactory as the scissors method. In those warts which occur in the genital region, the application of a simple drying powder, with perhaps 5 per cent. of salicylic acid in it, often suffices. Warts there owe their size to the heat and the moisture of the parts, and when these are dispelled they shrivel up.

MOLLUSCUM CONTAGIOSUM.

This is a somewhat rare disease, though it occurs oftener than it is diagnosed. Many cases are looked upon as being merely ordinary warts. The usual history of a case is that a

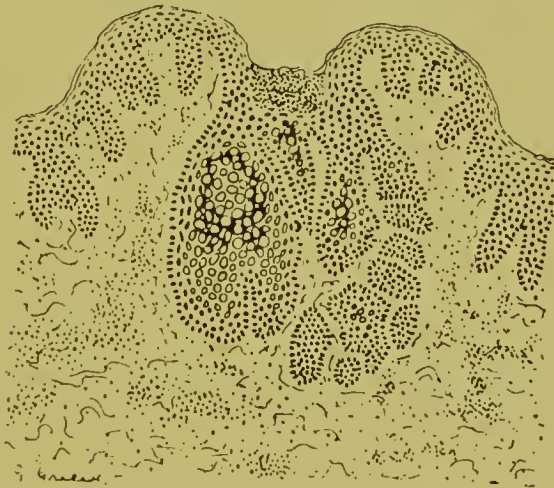


Fig. 32. Molluscum Contagiosum. Central section shows lobulated character, "molluscum bodies" in the centres of the lobules and, in this case, a central dimple. Sometimes this is replaced by a projection; $\times 50$.

little tumour appears on the skin, of which little notice is taken. By and by it swells, gets red and irritable, something

soothing is applied, and the signs of irritation disappear. Some weeks afterwards a group of little tumours appear in the neighbourhood. These vary greatly in size. They may be no larger than a small pin's head, they may be as large as a hazel nut. At first they are of a yellowish colour, their surface is shining, and they contain in their centre a dimple, or a projection which gives to them a very characteristic appearance (Plate XXIII). This plate shows the originally inflamed spot and the secondary group. When one of the little growths is examined under the microscope the appearances are as shown in Fig. 32. The appearance of a central section is roughly that of a sebaceous gland, that is to say, the epithelium is arranged in lobules, and in the centre of these a change has taken place as it does in the sebaceous gland. The change however is different, and instead of the fatty *débris* which is found in the sebaceous glands, we have here a number of hard oval structures which are known as "molluscum bodies." These are the result of hyaline degeneration of the epithelium, and are not, as was at one time supposed, parasites. The explanation of the lobulated character of the growths is purely physical, and is referred to on page 4. The actual cause of the disease is still unknown. The growths are undoubtedly contagious, but the contagion is one that takes a long time to show its results. Pick found that six or more weeks elapsed before any trace appeared at the seat of inoculation. The disease also occurs in the lower animals, and Shattuck has drawn attention to its occurrence in birds, sparrows, pheasants, domestic fowls, and pigeons. If left alone, the disease will continue to spread, and last for a very long time, indeed there is no reason why it should not last for ever.

TREATMENT.—This is simple. By far the best treatment is to snip off each growth with scissors. This is no more painful than slitting each one open and letting out the contents, and it is infinitely more satisfactory. If the spot is inflamed, it is probably well to apply some soothing dressing to dispel this inflammation before removing the growth.

MOLES (Nævi).

Moles or nævi, for the word *nævus* embraces all manner of growths, and should not be restricted to the angiomata, are growths of the skin, of congenital origin. They may not be visible at the time of birth, but in all probability their founda-

PLATE XIII



MOLLUSCUM CONTAGIOSUM

tions are laid, though they may never be used for building on. Moles are the best example of Cohnheim's theory of aberrant cells.

They are distinguished from warts by the absence of any papillary marking on their surface. The surface may be creased and grooved, but it has not the cauliflower appearance of a wart. The explanation of this is found on making a section of one, when the new growth is found to lie *beneath* the surface epithelium. This new growth consists of cells, regarding the nature of which two opinions are held. The cells are small in size, and indeterminate in character, and have usually been looked upon as connective tissue in origin. In the moles of adults it is exceedingly difficult to determine their nature and origin, but if moles from young children are examined, there is a considerable amount of evidence pointing to their origin from the surface epithelium. Rounded or pyriform areas of cells are seen, still in connexion with the rete, dropping down into the corium, and little collections which have apparently had this origin are to be seen lying free. The fact that when these little growths take on a malignant action and spread, they follow the course of carcinomata, is a clinical argument in favour of their epitheliomatous origin. Probably all moles are to some extent pigmented, but in most of them the pigment is limited to superficial layers. It is exceptional to find the pigment throughout the entire new growth of cells. The deeply pigmented moles may give rise to melanotic cancers, while the non-pigmented ones are, as Brodie long ago pointed out, not infrequently the starting point of rodent cancer of the skin.

If for any reason the presence of a mole is undesirable, it should be removed by some operative procedure rather than by the application of any caustic, which often stimulates the cells to active growth. Very small pigmented moles on the face may be destroyed by electrolysis, but the destruction must be thorough, and must not stop short at mere irritation.

FIBROMA.

This may be single, when it presents no special peculiarities. When multiple, the condition is usually known as *Molluscum fibrosum*, and the patient presents a very remarkable appearance. Plate XXIV is from a photograph kindly lent me by my friend, Dr. T. G. Nasmyth, Medical Officer of Health for Fife, Kinross and Clackmannan.

When first noted, each tumour is evident as a little hardness, feeling, beneath the loose skin, like a pea or a bean covered with thick velvet. The lump increases in size, and gradually projects over the level of the surface, while the skin stretches over it. Sometimes the tumours undergo a species of atrophy, and a little empty bag of skin is left. Cases of the severity of that shown in the Plate are fortunately rare, but instances where there are a dozen or two tumours are not very infrequent. They give rise to no symptoms, except those of inconvenience on account of their size and position, and are entirely painless.

When the tumours are examined under the microscope they are found to consist of fibrous tissue, dense or loose according to the consistence of the tumour. Sometimes they are composed of a mixture of nerve and fibrous tissue. Such cases are described as neuro-fibromata, but must not be confused with the neuroma proper.

DIAGNOSIS.—This presents no difficulty. There is practically no disease with which it can be confused, though Mycosis fungoides has a very distant resemblance to it. The tumours in this disease lead to no discolouration, and do not ulcerate except from accident.

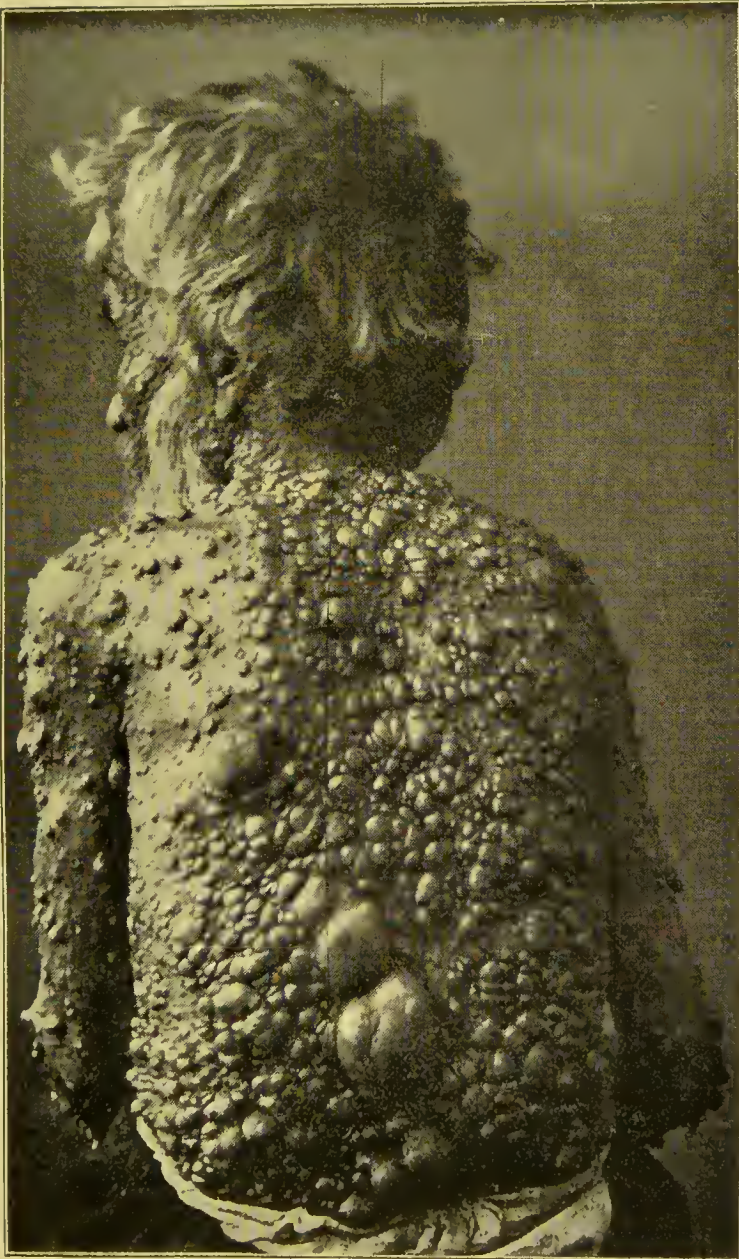
TREATMENT.—Nothing is of any avail but removal, and precautions with regard to hæmorrhage, which is sometimes considerable, should be taken. Of course in cases of the severity shown in the Plate, only those growths which are seriously inconvenient are removed.

KELOID.

(*χηλί*—a claw.)

While there is no great difference in their anatomy, there are sufficient clinical differences to justify a distinction between keloid proper and the hypertrophic scar. True keloid is a very characteristic growth, and is excellently represented in Plate XXV, for which I am indebted to my friend, Dr. Limont, of Newcastle. Probably all keloids arise in scars, but these may be of such a minute nature as to have altogether escaped the patient's attention. In this case and in another which came under my notice, the keloid commenced in a scar produced by the application of a mustard poultice, while it is at least likely that on the chest and back, probably the commonest situations of keloid, it takes its origin

PLATE XXIV.



MOLLUSCUM FIBROSUM.



KELOID.

in the scars of some bygone acne. The name is well fitted to the appearance. The tumour is longer in one direction than in the other, and usually sends out at its long ends *claw-like* processes. At the top and bottom the margins are usually more abrupt, and the number of processes less than shown in the illustration. The colour is a bright pink, and the surface is shiny, through stretching of the epidermis, beneath which a few dilated vessels may be seen. Once developed, keloid tends, with occasional intervals of rest, to steady increase. In this it differs very markedly from the hypertrophic scar, which, though it hypertrophies, does not tend to spread beyond its original limits. The hypertrophic scar is frequently seen in connexion with operation wounds in tubercular cases, and is quite commonly the result of scraping lupus. Keloid is most often single, but two or three are not infrequent, and cases are on record where the numbers have been measured by hundreds. Such cases usually follow eruptions of boils, small-pox, etc.

When a section of keloid is examined under the microscope, it is found to consist of very dense fibrous tissue; all the epidermic appendages have vanished, and the rete runs in a thin layer over the surface. The fibrous tissue is sometimes pretty cellular if the growth be active, and keloid may be looked on as a step on the ladder between the simple fibroma and the recurrent fibroid of Paget.

In favourable cases the part may flatten down and the tumour disappear, but as a rule the duration is very prolonged, cases having been recorded where forty or fifty years' existence had been noted. The hypertrophic scar shows more tendency to disappear than does the true keloid.

TREATMENT.—Excision, which would appear to be urgently called for, is worse than useless. It seems to be a matter of indifference how wide the incision goes, the tumour always returns in an aggravated form in the scar. The same is true in a modified degree of the hypertrophic scar. Other means have consequently been attempted, and electrolysis, multiple scarification, and pressure, have all been used, sometimes with a certain amount of success.

NEUROMA.

(νεῦρον—a nerve.)

True neuromata of the skin are very rare. "Painful tubercles" are subcutaneous growths which appear particularly on the forearms, hands and legs, and are generally exceedingly

painful, at least on pressure. They are probably of two kinds, true nerve tumours, and fibrous tissue tumours containing nerves. In the latter case the pain is due to stretching or compression of the nerve fibres. Excision is the only means of treatment.

ANGIOMA.

(ἀγγεῖον—a vessel.)

There are several forms of angioma which occur in the skin. Nævus araneus or "spider" nævus is most common on the face, and consists in a dilatation of the small vessels, which assume a form somewhat resembling a spider's web. It may increase to a considerable size. Then there are the small, angry-red angiomata, which are very common upon the chest and back, but may occur in other situations also.

Nævus flammeus is the familiar port wine stain, most frequently observed on the face, less often on other parts of the body. According to Unna these are due to the intermittent pressure exercised on the fœtus during intra-uterine life.

TREATMENT.—Spider nævus is very easily dealt with. Electrolysis of the central point usually cures it permanently in one or two sittings. The small rounded nævi are pretty easily disposed of by the same means, and if that method is not convenient, either of them may be treated by the application, on a very fine point, of some caustic, such as nitric acid; the acid nitrate of mercury, carbolic acid, or the ethylate of soda.

Port wine stains are not very often improved by treatment. It is, no doubt, possible to produce improvement by electrolysis, but the process is very prolonged and the results are too uncertain to make it a method strongly to be recommended. Unna has tried treating these cases with prolonged pressure, but I do not know that his results were very satisfactory.

Subcutaneous nævi come under the care and treatment of the surgeon.

LYMPHANGIOMA.

This is a tumour of the lymphatic vessels, and it may appear on any part of the skin. It is unnecessary here to discuss the question as to whether lymphangioma or lymphangiectasis is the more suitable term for individual cases. Once they are present it is of little importance whether the lymphatics are new-formed or merely existing ones dilated. The little growths appear in irregular groups, and look like

vesicles, so like that cases are frequently mistaken for zoster, from which, of course, they are easily distinguished by their course. The vesicles are deep and have thick walls, and when pricked discharge, and continue to discharge, a colourless fluid. Often there is only one patch, which in appearance suggests that of a white raspberry opened out and inserted in the skin. Once fully developed they show no great tendency to spread, or if they do, spread very very slowly.

TREATMENT.—The vesicles may either be dried up by electrolysis, which requires repetition several times, or the whole patch may be removed by the knife. Incision must go pretty wide of the disease, otherwise the tendency to recurrence is great.

ADENOMA SEBACEUM.

Many cases of the disease to which this term is generally applied have certainly been lymphangiomata. In one case which has been many years under my care I have, more than once, excised the lesions, and have always found them of this structure, though apparently in other cases tumour formation in connexion with the sebaceous glands does occur. The disease occurs on the faces of children whose mental development is below par.* Very often there is a history of fits in infancy, and the development of the disease has been attributed by some to the large doses of bromide of potassium administered. The little tumours are whitish yellow in colour, cover the whole face, though they are most numerous on the nose, cheeks, and chin, and have between them small teleangiectases, which give the face a mottled appearance. Now and then one enlarges to an inconvenient size, but as a rule the disease is troublesome only on account of the disfigurement. As the child gets older, the disease tends to moderate if not to disappear, but this takes long, and a great deal can be done by treatment. Electrolysis was not very successful in my case, and I had much better results from destroying the larger lesions with the fine point of Unna's microbrenner, while, where the lesions were smaller, I ironed the surface with an ordinary Pacquelin cautery at a dull heat.

* The disease is fairly common in Imbecile Institutions.

MYOMA.

The leiomyoma is the only variety that occurs in the skin. They may develop on any part, and take origin from the cutaneous muscles. They are most common on the arms of women, and are firm, of a reddish colour, and usually excessively painful. Excision is the only remedy.

CHONDROMA. OSTEOMA.

Both these tumours may occur in the skin, but so rarely as to make them merely curiosities.

CLAVUS.

(*Clavus*—a nail.)

Corns are placed by Unna among the tumours, and there seems to be no particular reason why the horny cells should not have as much right to form tumours as the rest of those of the body. The corn is a dense thickening of the horny layer, usually conical in shape, and occurs at any part which is exposed to intermittent pressure. Constant pressure causes atrophy, intermittent pressure tends to growth. Corns are too familiar to require any description, and only very brief remarks with regard to treatment are necessary. The best application is salicylic acid, which may be applied dissolved in collodion, to which it is customary to add some cannabis indica to

R _x	Salicylic Acid	℥ss
	Tinct. Cannabis Indica	℥xx
	Collodion	℥ss

diminish the pain. This is painted on every night, and in about a week the dead epidermis separates. The application should be renewed again and again until the surface is level. Sometimes salicylic creasote plaster is more convenient, and it is more rapidly efficacious than the collodion. Treatment is, however, of little avail if the original cause is still in existence. The patient must wear loose-fitting foot gear, and, preferably, woollen stockings.

ANGIOKERATOMA.

(ἀγγεῖον—a vessel; κέρας—a horn.)

This is a mixed form of tumour which may be roughly said to be a mixture of an angioma and a corn. It occurs in groups, particularly on the hands, feet and ears, more

rarely on the limbs, of those who are subject to chilblains or to "dead fingers." Their appearance varies according as the angioma or the keratoma is the more prominent. In the early stages the former is more apt to prevail, and there are a number of little, hard, red, lenticular spots; as the disease advances the horny layer thickens, and sometimes greyish, horny looking patches obscure the reddish colour beneath.

TREATMENT.—The best immediate treatment of the lesion is electrolysis, but the real treatment consists in taking such steps as will improve the circulation, and prevent the recurrence of fresh lesions in the following winter (see "Chilblains").

CORNU.

A cutaneous horn is rarely observed now-a-days. Most cases probably had their origin in a broken-down dermoid or an atheroma, and as such neglected cases now rarely occur, cutaneous horns are pretty well limited to museums. The only treatment for them is, of course, removal

XANTHOMA (Xanthelasma).

(ξανθος—yellow.)

As the name indicates, this growth is characterised by its yellow colour. The cases may be divided either into the plain and tuberous forms, or into *Xanthoma palpebrarum* and *Xanthoma multiplex*.

Xanthoma of the Eyelids is an affection which commences in middle life, with a minute yellow spot which expands into a patch, varying in size. Sometimes the patch extends so as to form a complete ring round the eye. It is slightly raised above the level of the skin, and has a somewhat wrinkled appearance. The usual comparison to a piece of chamois leather let into the skin is a very appropriate one. Growth is very slow, but there is no tendency to absorption. The yellow colour of the growth is due to the presence of fat, and it is usually looked upon as a connective tissue growth, in which the cells have undergone fatty degeneration. According to Unna this is incorrect, the fat in xanthoma palpebrarum being situated in the lymph spaces, and being in reality a sort of fatty infiltration of the orbicularis muscle, comparable to the fatty deposits in some senile hearts. The giant cells

which are found in the growth are, according to him, sections of dilated lymphatics, and the ring of nuclei is composed of those in the walls of the vessel. There is no pain and little inconvenience caused by the growth, and excision is the only treatment which can be surely depended upon, though cases have occasionally been successfully treated by electrolysis.

Xanthoma multiplex or tuberosum.—This is apparently quite a different form of growth. It usually appears during the early years of life, and while it may appear on the eyelids, it is more commonly seated on the limbs, the palms and soles, or the trunk. When it develops in adults, it is very often related to jaundice, and this connexion is occasionally seen in children. Like the eyelid form, this owes its yellow colour to fat, but apparently in this form of the disease the fat develops more certainly in the generally supposed way; that is to say, that a growth of connective tissue cells which undergo fatty degeneration is much more readily observed, and giant cells are not found. Cases have been known to involute, but as a rule, they grow to a certain size, about that of a shilling, and remain stationary, so that excision remains the only treatment if their removal is desired.

Xanthoma Diabeticorum.—This is a variety of the disease associated with glycosuria, all the cases in which it has occurred either having glycosuria or developing it subsequently. It is not very distantly related to the generalised variety, but its course is more rapid and favourable. Plate XXVI is an illustration of a case which I have published along with Dr. James, under whose care the girl was, in the "Scottish Medical and Surgical Journal." The sex of this patient was exceptional, as most cases have occurred in males.

The growths commence as little hard swellings, reddish in colour, and it is only later that the fatty degeneration sets in, and the yellow colour appears. The structure of the little growths in this case was that of connective tissue tumours, the cells of which underwent fatty degeneration. A considerable amount of fat was found in the tissue spaces, and may have been derived from breaking down of cells. This form of the disease has its special seats of election on the elbows and knees, and then on the loins and buttocks.

The prognosis depends on the glycosuria. As that gets better the skin eruption disappears. Any local treatment is of quite secondary importance.



XANTHOMA DIABETICORUM

XANTHELASMOIDEA.

(*Xanthelasma* and *εἶδος*—like.)

Clumsy though this name may be, it appears to me eminently more applicable than the more generally used one of *Urticaria pigmentosa*. The disease is a rare one. It appears very early in life, the child showing certain symptoms of urticaria. The typical wheals of that disease are undoubtedly present in most cases, but there is a further lesion which gives the disease its characteristics. Flat elevations varying in size appear profusely all over the skin, and persist. They are of a pale to a deep yellow colour, and the resemblance to xanthoma is very remarkable. In particular the skin over them is not tense as it is in the urticarial wheal. After slowly increasing for a time they gradually disappear, and, as a rule, vanish entirely in the years between puberty and adolescence. One or two cases, however, are on record where the lesions have been persistent. When examined under the microscope the tumours are found to be composed almost entirely of Ehrlich's mast cells, and their persistence seems to be an argument in favour of the connective tissue origin of these peculiar cells as against their origin from leucocytes.

Time is the only remedy. Treatment has no effect upon the condition.

SECTION VII.

RETROGRESSIVE CHANGES.

ATROPHIES.

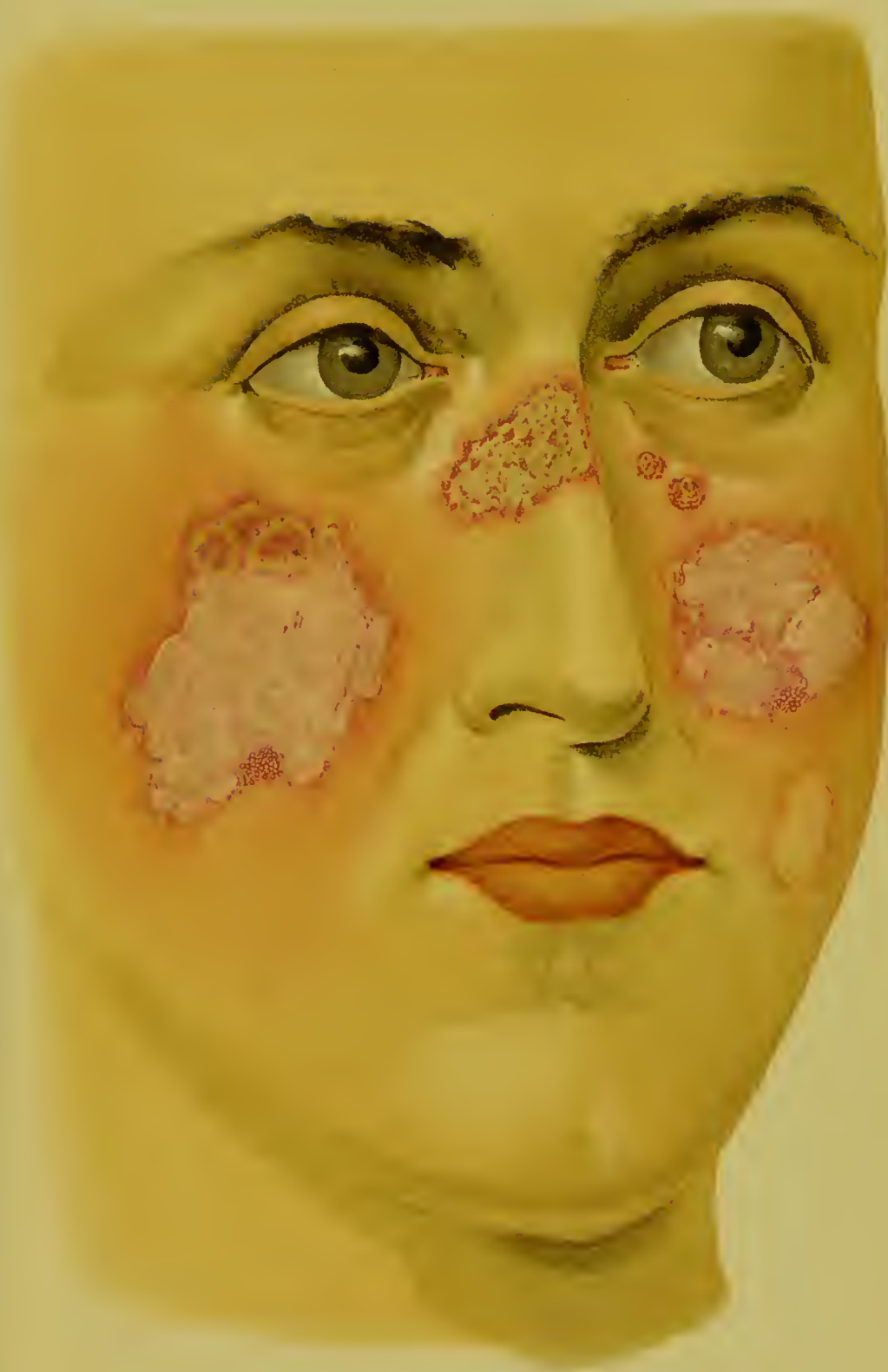
Under this heading Unna discusses a number of interesting pathological conditions, but the only division which contains skin diseases of common interest not elsewhere dealt with is the section of "atrophies subsequent to hypertrophy or inflammation."

LUPUS ERYTHEMATOSUS.

(*Erythema centrifugum*, *Ulerythema centrifugum*, *Seborrhœa congestiva*, "Batswing" or "Butterfly" lupus.)

This disease has many names, and each of them is more or less unsuitable. The use of the term *Lupus* has led to its confusion with tuberculosis, while none of the other names are altogether descriptive. Probably the best is the one suggested by Unna, of *Ulerythema*, from *ούλή* a scar, since erythema, scarring, and centrifugal spread are prominent characteristics of the disease. In the enormous majority of cases the disease affects a certain limited area, the nose, cheeks and ears being the seat of probably 80 per cent. of the cases. When present in its most typical form, the resemblance to a butterfly, the disease on the nose forming the body, and that on the cheeks the wings of the insect, is very considerable. The other situations on which it is found are the hands and the scalp. It is quite exceptional on the trunk and limbs.

The disease appears in several forms, some of them so rare that they need only be briefly alluded to. The rarest form is the generalised one, where the whole surface of the body may be affected, and where a fatal termination is not infrequent. Another rare variety is the teleangiectatic, where there is comparatively little surface disturbance, but where the skin is intensely reddened from the dilatation of the capillaries, and quite a distinct white scar is left on the skin. The two common forms in which the disease occurs may be described as the erythematous and the



LUPUS ERYTHEMATOSUS

sebaceous varieties. A case may be entirely or mainly of one variety, or it may be mixed. The erythematous type consists in the development of one or more rounded, raised, reddened patches, which enlarge, flatten in the centre, and sometimes closely resemble ringworm. The scar which is left varies in depth, sometimes being scarcely perceptible. This form of the disease occurs on the face, and is almost the only one seen on the hands. The border of the lesions often has a curious "stippled" appearance, which is shown in the accompanying plate (Plate XXVII). This Plate is taken from the case of a girl aged nineteen. On the right cheek, at the upper part of the patch, is shown the erythematous form of the disease, and at the lower border of both the larger patches on the cheeks, the "stippled" appearance referred to. The centres and the smaller patch on the left cheek show the fine white scar which is left by the disease. On the nose, and on the two small patches beneath the left eye, the sebaceous or scaly form of the disease is shown. The drawing was taken two years ago; the patient is now quite well and the scars are hardly detectable.

The sebaceous form of the disease appears on the face, ears and scalp. The first evidence of its appearance is a slight redness, and the mouths of the sebaceous glands are more prominent than normal, hence it was described by Hebra under the name of *Seborrhœa congestiva*. Very soon a little scale forms upon the surface, and if this is removed there may be seen dependent from it little stalactite-like processes, which have been dragged, some of them from depressions in the horny layer, some of them from the mouths of the sebaceous glands. As the disease spreads, the centre sinks in, and more or less scarring results. The scales on the surface are of a peculiar greyish, mortar-like character, quite different from those of seborrhœa.

PROGNOSIS.—The course of the disease is curiously erratic. While some cases get well spontaneously, other cases persist in spite of treatment for years, but except in the disseminate form referred to, the disease does not interfere in any way with life.

ETIOLOGY.—The cause of lupus erythematosus is unknown. At one time some observers refused to recognise any distinction between it and lupus vulgaris, but this is no longer so. There are, however, many who hold that while lupus erythematosus is not a tuberculosis of the skin it is nevertheless

tubercular, and they point to its occurrence in patients with tuberculosis, and to cases of true tuberculosis of the skin which very closely resemble it in appearance. They believe that toxins produced in foci of the disease elsewhere are responsible for this manifestation on the skin. Since patients do not die of lupus erythematosus, it is not easy to decide this point on the *post mortem* table, but it would appear that one single case of lupus erythematosus without any tubercular focus would have more weight in its bearing on this theory than many cases in which the presence of both diseases could be demonstrated. The greater prevalence of the disease in certain localities does not coincide with a similar prevalence of tuberculosis. Lupus erythematosus is distinctly more common in countries with a cold climate, Norway and Scotland contributing a very large proportion in any series. Further, it finds by far the largest proportion of its victims in the female sex. It also shows a curious connexion with the occurrence of chilblains, many sufferers also suffering from that condition, and, indeed, on the hands the two conditions are often almost indistinguishable. The exam-

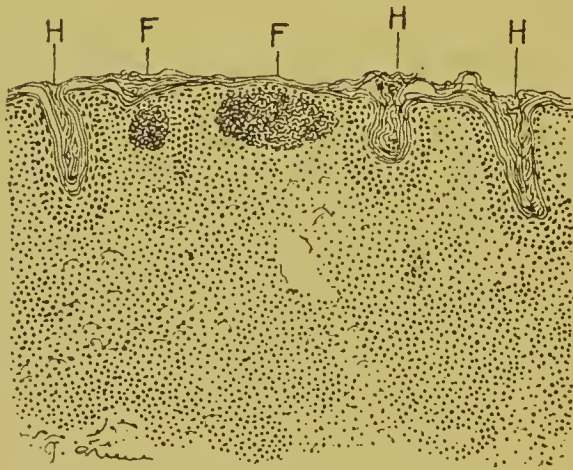


Fig. 33. Lupus erythematosus. The corium is dropsical and packed with cells, masses of coagulated fibrin are shown at F., and at H. are seen the horny plugs which are evident clinically on the under surface of the scales; $\times 50$.

ination of sections does not give much help with regard to the etiology. No organism has been found and the results of inoculation have invariably proved negative. The appearances are shown in the two annexed figures. In Fig. 33, a low power drawing of a section from a case of the sebaceous type, the epidermis is seen to be extraordinarily thin, the corium

beneath is œdematous and packed with cells, and, if appropriately stained, bundles of coagulated fibrin are found here and there through it. The horny layer is somewhat thickened, and the plugs which are evident on the under surface of removed scales are seen dipping downwards. In the high power drawing (Fig. 34), some of these changes—the extra-

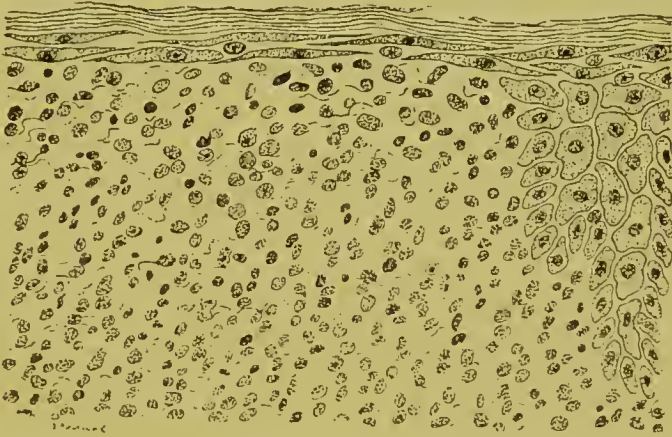


Fig. 34. Lupus erythematosus, shows the exceedingly thin epidermis and the dropsical corium, packed with leucocytes and young connective tissue cells; $\times 351$.

ordinary thinness of the epidermic layer and the cells in the corium—which are of two kinds, leucocytes and proliferative connective tissue cells—are more easily seen. This section illustrates very well the comparison made by Unna, with a morass, the surface firm looking, the deeper parts treacherous. Organisms have been sought for repeatedly in vain, but that is not sufficient evidence that they do not exist. It seems most likely that lupus erythematosus is due to some organism which still remains to be discovered. Thrombosis has been sometimes noted in the capillaries.

On the scalp, the sebaceous or scaly type of the disease is the one observed (*vide* Frontispiece). The area affected is irregular in shape, the centre is scarred, and feels firm, while the border is somewhat raised, carries scales on its surface, and often shows, here and there, the “stippled” appearance already referred to. The part is nearly but not quite completely bald.

On the fingers the disease is always of the erythematous type. The lesions closely resemble those of chilblain, and are often only distinguishable from these by the fact that they

leave behind them a certain amount of scarring, which scarring, moreover, often nearly disappears with time.

DIAGNOSIS.—On the face, practically the only conditions with which it can be confused are tuberculosis and syphilis, both of which also leave behind them scars. From tuberculosis it is distinguished by the absence of ulceration, and the entire absence of the “apple-jelly” nodules which can always be detected in that disease. The period of its appearance, too, aids in diagnosis, for lupus erythematosus rarely commences before early adult life, whereas lupus vulgaris is certainly most common in children.

Lupus erythematosus is more frequently symmetrical than lupus vulgaris, and the frequent simultaneous affection of the ears or the scalp simplifies the diagnosis, for lupus vulgaris hardly ever attacks the scalp.

From the late crusted syphilide it is distinguished by its history, its symmetry, and the difference in its response to anti-specific treatment.

Lupus erythematosus of the scalp can hardly be confused with any other disease, by one familiar with it. Cases are sometimes diagnosed as ringworm, or alopecia areata, but the appearances, the course, and with regard to ringworm, the absence of any fungus, are distinctive. On the fingers, as has already been said, the resemblance to chilblain is so great that it is sometimes only either the development of scars or the disappearance during the warm months, that enables one to distinguish between the diseases.

TREATMENT.—Several observers recommend drugs internally in the treatment of this disease. M'Call Anderson prescribes iodide of starch; Bulkley, phosphorus; Payne, quinine; Crocker, salicin; while ichthyol, ergot, carbonate of ammonia, iodide of potash, and arsenic, each have their advocates. I have not been able to satisfy myself that any of them appreciably influence the disease. If I am to make any exception it would probably be in favour of quinine, which some of my patients thought had done them good. White, of Boston, takes a very pessimistic view of the disease, and his words would suggest that any improvement following treatment is rather a matter of good luck than good guidance. His views are certainly not held in this country. From a pretty considerable experience of the disease I can at least indicate the lines on which treatment may hopefully be directed. It is most important not to do the patient harm.

The course of the disease is slow, and it is essential that the physician should have the confidence of his patient. Therefore, it is of prime importance to avoid the application of grease, which almost always does harm to the erythematous type of case, and rarely does good to the sebaceous one.

Since we are ignorant of the cause of the disease, our treatment is, in the main, symptomatic.

In the erythematous type our object is to soothe irritation, diminish hyperæmia, and dispel the exudation in the skin. The best application with which to commence treatment in this form of the disease is calamine lotion (page 119). This is painted on twice or thrice daily. Simple dry powders such as talc, oxide of zinc, calamine, calomel, carbonate of magnesia, etc., may also be applied. The swelling of the parts may also be treated by compression, which is most easily exercised by the application of collodion. This must be cautiously used at first, as it does not suit every case. Another method of treatment, suitable to the erythematous form, is multiple scarification. Hundreds of shallow incisions are made in all directions across the patch, bleeding is encouraged for a time, and then some simple dusting powder is applied.

The sebaceous form of the disease is most successfully attacked on different lines. It is perhaps not a bad plan to commence here also with calamine lotion, if only for the sake of doing no harm at the start. Generally speaking, however, cases will stand an activity of treatment which would hardly be expected of them; a case in which the simple application of zinc ointment will produce hyperæmia and aggravation, will benefit from a thorough scrubbing with soft soap. This method of treatment was originally recommended by Hebra, who advised that a piece of flannel be dipped in soap spirit and the part firmly rubbed with it until all the scales are dissolved away. The occurrence of some hæmorrhage is no reason for stopping this treatment, which should be carried out once every twenty-four hours. I have also seen much benefit result from the application of a mixture of soft soap and metallic mercury, three parts of soap being rubbed up with one part of mercury. This is rubbed in and allowed to remain on the part. Liquor potassæ is another form of treatment. A pledget of wool is dipped in this and the part is scrubbed for about five minutes. It is then bathed with warm water, and calamine lotion is applied.

Having indicated the main lines of treatment in these two

varieties, I may next refer to applications which are recommended for both. Resorcin is sometimes useful, so is salicylic acid, and even chrysarobin, but the drug which has proved most useful in my hands is oxidised pyrogallic acid. This is prepared by exposing ordinary pyrogallic acid to the vapour of ammonia. Its chief disadvantage is its black colour. I order it in a 1 or 2 per cent. solution in acetone collodion. This is weaker than it is generally used, but it seems to me to be more efficacious than stronger solutions. Though applicable to both varieties of the disease, it is followed by more striking results in the erythematous type, possibly owing to the compression exercised by the collodion in which it is applied.

Other methods of treatment are recommended. One which has recently been a good deal referred to is Schutz's method, which consists in the application of Fowler's solution diluted with eight times its bulk of water. This is painted on twice daily, until a reaction sets in. When this has subsided, painting is recommenced, and according to Schutz the disease is usually cured in ten or eleven weeks. I can only say that I gave the treatment a thorough trial in half-a-dozen cases, and that they were not nearly well in that period. Caustics are recommended by some, but are of very doubtful value and should never be used by the inexperienced. Sometimes the thermo-cautery may be used with advantage, but it should not be forgotten that that method of treatment necessarily leaves considerable scars, and that the disease not infrequently runs a natural course with almost invisible ones.

Of the methods of treatment by static electricity, and by sun and electric light, I have no experience.

In conclusion, I would again repeat that those not experienced in the treatment of the disease should be content with the milder measures, under which the disease often improves as much, and nearly as often gets well, as under other remedies more potent both for good and evil.

SCLERODERMA.

(σκληρός—*hard* ; and δέρμα—the *skin*).

As the name indicates, this disease is characterised by a hardening of the skin. It appears in two forms, the diffuse and the circumscribed, the latter of which is also known as morphœa (from μορφή—a *shape or form*)

Diffuse scleroderma may be universal, affecting the whole of the skin; more frequently it is confined to a region, such as a whole arm, the one side of the neck and head, etc. Sometimes the process is divided into two stages, a stage of infiltration or œdema, and one of atrophy. The former varies in its duration, being sometimes brief, sometimes prolonged.

On inspection there is often not much to be made out, though sometimes, especially on the face, the corpse-like immobility of the part is very striking. When the hand is applied the part feels cold, and very hard. The comparison is often made, and very appropriately, to a bladder very tightly packed with lard. As the disease advances it seems to affect the deeper lying structures, and it is impossible to move the skin over them. If it contracts, voluntary motion is interfered with, and the skin may be so tightly stretched over the bones as to ulcerate. If it occurs on the chest, respiration is seriously interfered with, and if on the face it may be almost impossible for the patient to eat. Sometimes the mucous membranes are involved. The disease affects by preference the upper parts of the body, and is more common in women than in men.

PROGNOSIS.—Sometimes the disease terminates fatally through interference with the necessary functions of the body, but sooner or later most cases clear up, the induration slowly disappearing. In the cases, however, where there has been much contraction, the effects of that contraction, in the shape of atrophy and fixation of joints, are sometimes not recovered from. Progress is apt to be interrupted, the patient is very subject to chills, and acute rheumatism is a frequent complication.

Circumscribed scleroderma, or **Morphœa** is regarded by many, and with a considerable show of reason, as being a different disease from the diffuse. As the name indicates, it appears in a more limited fashion than the diffuse variety, the commonest form being a rounded or oval patch on the chest. This is, when fully developed, like a piece of hard leather let into the skin. It is of a white or old ivory colour, and is usually surrounded by a lilac-tinted zone of dilated capillaries.

This is, however, not the only form which it assumes. On the limbs, particularly in children, it tends to appear in band form, sometimes the bands being of considerable length. The old ivory tint is more pronounced in the band type, and the lilac border is not quite so prominent as in the circular one.

Unna separates a form of morphœa, which he describes as "card-like" scleroderma. In it the spots are multiple, much smaller than those of typical morphœa, and somewhat depressed, and they have a bluish-white colour, looking, as he says, as if a small portion of a visiting-card had been let into the skin. Dr. Jamieson recently had under his care a case which corresponded with this description.

After lasting for a longer or shorter period, the infiltration clears up and the skin returns to the normal.

ETIOLOGY.—The cause of the disease is not known. In the diffuse form, rheumatism and erysipelas are frequent incidents in the history. In the circumscribed form, apparently some slight irritation is often the starting point. Sheppard notes that the irritation of a collar stud produced it in one case, the frequent occurrence on the breast of females is attributed to irritation from the corset, and it sometimes occurs in the garter region, as in a case under the care of Dr. Limont, of Newcastle.

When sections are examined there is found an increased growth of the connective tissue, the elements of which are closely packed together, sclerosed. The blood-vessels are very much narrowed, and this is usually attributed to endarteritis. Unna, however, maintains that there is no question of endarteritis, and holds that the narrowing is due simply to the growth and pressure of the connective tissue.

DIAGNOSIS.—The only disease with which diffuse scleroderma could be confused is *Sclerema neonatorum*, but as that disease is either evident at birth or appears immediately thereafter, and as scleroderma does not attack very young children, the question can hardly arise. Circumscribed scleroderma is most easily confused with *Leucoderma*, but the resemblance is only superficial; in leucoderma there is no hardening of the skin, the only change is in the colour. Morphœa which used to be called the "keloid of Addison," can hardly be confounded with true keloid, the "keloid of Alibert."

TREATMENT.—Time is the great remedy in both forms of the disease, but measures for the promotion of the general health are very important. Medicines are of little value, but it has appeared to me that thyroid substance has favourably influenced more than one case. Salicylate of soda is recommended by some. Massage is of undoubted value. There is massage, and massage. The case from which Plate XXVIII. was taken, improved very little under domestic rubbing, but



SCLERODERMA

very rapidly under the treatment of my friend Dr. J. H. A. Laing, who kindly took her under his care. Electricity in the form of electric baths, electrolysis, and static electricity have all been tried. I have not seen much benefit from the application of ointments, whatever drug they contained.

The case from which the illustration (Plate XXVIII.) was taken was a girl of fifteen, and shows on the breast the patch form, on the arms the band form, of the disease. The bands were rather more extensive than is here depicted, and by interfering with the mobility of the arms had led to a certain amount of muscular atrophy. She had in addition one or two patches about the waist. The illustration shows the yellowish old-ivory colour (rather too deeply), the lilac border and the shiny surface of the patches.

SCLEREMA NEONATORUM.

This is a rare disease, which is found in new-born infants, and is often confused with an almost equally rare condition, *Œdema neonatorum*. Both diseases are present at birth or develop very shortly afterwards. Sclerema is always most marked on the back, œdema commences on the feet and spreads upwards. The skin in sclerema is intensely hard and cannot be pinched up, and the body is so stiff and rigid that it can be lifted by one hand. In œdema the parts are cold, livid, and pit on pressure. Some have suggested that these diseases are due to solidification of the subcutaneous fat, but the evidence of this seems insufficient. Both the diseases have a very grave prognosis. Sclerema is very rarely recovered from, œdema occasionally.

The treatment consists in raising the body temperature, and in administering as much nourishment as can be absorbed

SECTION VIII.

MALFORMATIONS.

There are many conditions which, in any complete system, would come under the malformations of the skin, particularly certain tumours developed in connexion with the glands, and certain forms of moles. Dermoids and Atheromata are clearly malformations, but for their description other authorities must be consulted. The two of practical importance are Hyperkeratosis congenitalis, and Hypertrichosis.

HYPERKERATOSIS CONGENITALIS.

(ὕπερ, κέρας—*horn*.)

This is the condition which is usually described as congenital ichthyosis, the "harlequin foetus." In it there is an excessive cornification of the surface cells, and the child is born clad in a sort of horny armour. As it grows and moves its limbs, this tends to crack in various directions dependent on the movements. The disease is practically universal, all the skin being affected, and in this as in other directions it differs from ichthyosis. As a rule, the subjects of it do not survive, but where the disease is present in its less severe form they sometimes do. It is distinguished from ichthyosis by the fact that it is congenital, whereas ichthyosis appears generally towards the end of the first year of life; and by its distribution, which is universal, whereas ichthyosis is rarely very widespread at first, and hardly ever affects the palms and soles, which this disease always does. The treatment consists in liberal nourishment, cod-liver oil, abundance of milk, etc., and the local application of weak salicylic ointments, which tends to promote more normal cornification.

HYPERTRICHOSIS.

(ὕπερ, and θρίξ—the *hair*.)

Hypertrichosis, or the growth of hair in abnormal situations, or in the usual situations in persons who should not normally have it, is a condition which some consider it beneath the dignity of a physician to deal with. It is, however, a very

real affliction for its victims, and by the depression which it produces, often has a serious effect on their mental condition.

There is only one method of treatment, namely, destruction of the superfluous hairs: nothing will prevent their growth. The only permanent method of removal is electrolysis. In considering its applicability to any case, the extent of the disease must be taken into consideration. A few hairs are easily destroyed. If the growth is extensive, the operation is so prolonged and tedious that it can only be undertaken by the wealthy. The method is as follows: The patient sits in a comfortable chair, and holds in her hand the positive pole of a battery consisting of four to eight Leclanché cells. The negative pole is connected with a fine needle, and this is introduced into the follicle of each individual hair. Care must be taken that it is introduced in the line of the hair, and not simply stuck into the skin. A little froth appears at the mouth of the follicle, and, if the effort has been successful, the hair can be lifted out with forceps. Some recommend a more elaborate procedure, special precautions being taken to prevent the current flowing until the needle is in the follicle, but I have not found any great advantage to compensate for the additional trouble, and one can certainly work more rapidly in the way described. If the growth of hair is extensive, the "X" rays may be tried. It is absolutely necessary that they be only used in skilled hands, for the amount of destruction done by them is sometimes very serious. If the application is successful, the hair over a considerable area falls out, and the patient has at least a few weeks of happiness. The hair however always returns, and the operation has to be repeated.

If these methods are inapplicable, shaving or depilatories may be resorted to. Women have an invincible objection to the razor, and invariably prefer some other form of removing the hair. Carefully applied, depilatory remedies are not so terribly injurious, and they need not be by any means so expensive as they usually are. The sulphides of barium and calcium are those commonly used. The former is mixed with equal parts of water and starch into a thick paste, spread on the part, and when dry, in about ten minutes, is washed off, the dissolved hair coming with it. The part should then be powdered, to diminish the slight irritation of the application. The sulphide of calcium is more active, destroys the hair rather further down the follicle, but is followed by a good deal more inflammation than the barium salt.

SECTION IX.

SAPROPHYTES.

In following Unna in placing Pityriasis versicolor and Erythrasma under this heading, I must confess to some misgiving. It is true that considering the amount of fungus present, there is very little disturbance, but there is sometimes a little scaling in pityriasis versicolor, not so much as the name would lead one to expect, but still enough almost to warrant one in regarding it as a very superficial inflammation.

PITYRIASIS VERSICOLOR.

(*Variegated scaliness.*)

This disease is due to the growth in the superficial layers of the skin of the fungus known as the *Microsporon furfur*. It most commonly occurs upon the chest, though in exceptional cases it may spread from there to the limbs, and it consists in the presence of yellowish areas, of various sizes, shapes and shades. The larger patches are made up from the aggregation or enlargement of smaller ones, and the shade of colour varies from a pale yellow up to a rich brown. The disease is most common in those who perspire freely and do not change their garments sufficiently often, and was certainly very common in consumptives when avoidance of cold at all hazards was considered the essential treatment of that disease. Whether owing to the different views which now prevail or not, cases certainly occur with much less frequency in Edinburgh than they used to, and students have far fewer opportunities of becoming familiar with it than a few years ago. There is very little of the scaling which the name implies, though scales may be scraped off readily enough with any blunt instrument; and the only disturbance which the patient suffers from is slight itching.

When the scales are examined in a drop of liquor potassæ under the microscope, the well known appearances of the fungus are shown. All who possess a manual of physical diagnosis are familiar with the bunch-of-grape-like spores and the long filaments of fungus. If however the surface

layer of the skin is removed *en masse* by the application, for a day or two, of salicylic plaster, the arrangement of the fungus appears different. If a portion of the removed horny layer is stained by Morris's method (see Ringworm), it is found to contain an enormous amount of fungus, an amount so enormous that it is hardly possible to see through its dense felting, and the spores are now by no means easy to detect. It would almost seem as if the potash disintegrated some of the fungus where the joints were very short and spore-like, and that these ran together by capillary attraction.

DIAGNOSIS.—The disease with which those unfamiliar with it are most apt to confuse pityriasis versicolor is syphilis. The mistake should never occur. The history of long persistence, the slight itching, the profuse sweating, should all arouse suspicions of its nature, and microscopic examination will settle the point. In the scales of ringworm it is not always possible to detect the fungus, in the scales of pityriasis versicolor it is absolutely impossible to overlook it.

TREATMENT.—Treatment of the disease consists in the destruction of the fungus. It is often said that it tends very much to recur. Recurrence is a word which is often somewhat laxly used. If the disease is not removed, undoubtedly it will "recur," and it is insufficient and inefficient treatment which is responsible for the recurrences. The part should be thoroughly scrubbed with soap spirit, so as to take away as much of the fungus as possible, and then the affected region should be painted with some antiseptic solution. Lotions of perchloride of mercury or hyposulphite of soda, sulphur ointment, resorcin, or salicylic ointment—any of these will destroy the fungus. Perhaps as good a method as any is for the patient to take a warm bath nightly, to wash the parts vigorously, and to paint on a solution of tar in spirit, $\frac{1}{2}$ to 1 drachm to the ounce. The possibility that spores of the fungus adhere to the underclothing should be borne in mind, and that should be changed frequently.

Eichhoff recommends that quinine soap should be used to wash the part for some time after the disease has disappeared.

ERYTHRASMA.

(*έρυθρός*—*red*.)

Erythrasma is a disease which we rarely see in this country, but it is by no means uncommon in many places. It has

many resemblances to pityriasis versicolor, but is invariably limited to the genital and axillary regions. It is less extensive, is of a dark reddish-brown colour, and has usually an abrupt, reddish edge. When the horny layer is removed in the manner referred to in connexion with pityriasis versicolor, it also is found to contain a dense felt-work of fungus. The threads are very much finer than those of the *Microsporon furfur*, and if the scale is broken up and made into a cover glass preparation, the fungus breaks up into bacillary looking joints. A few spores are found among the felt-work. The name given to the fungus is "*Microsporon minutissimum*."

DIAGNOSIS.—The disease with which it is most apt to be confounded is ringworm, which often occurs in the same regions. The eruption of ringworm causes very much more irritation. *Erythrasma* is often only discovered accidentally, and further, the border in ringworm is more raised and very frequently has vesicles upon it.

The treatment of *erythrasma* is the same as that of *pityriasis versicolor*.

SECTION X.

ANOMALIES OF PIGMENTATION.

The great "pigment" question, with its vexed points as to the nature and source of the pigment, and the method by which it reaches the epidermis from the blood, is of more scientific than practical interest. Unna classes the diseases in which pigment is increased, with the Progressive disturbances of nutrition, and those where it is diminished with the Retrogressive. Without entering on any criticism of his plan, I venture to think that for practical convenience in such a work as the present, the arrangement I have selected is more convenient for the student.

Increased pigmentation is associated with any long continued inflammation of the skin, especially if the part be congested, but it is further very specially associated with certain specific diseases. The greyish brown pigmentation around a syphilitic scar is quite characteristic, while the rich brown stain left on the disappearance of a patch of Lichen planus is often of value in the diagnosis of a doubtful case. On the other hand, absence of pigmentation is usually noted in scars for a considerable period after their formation.

True pigmentation often results from the too long continued use of arsenic, under which circumstances it often affects all the areas of the disease for which the drug has been prescribed, and an apparent pigmentation due to the reduction of silver in the tissue occasionally follows on the ingestion of the nitrate of silver (Argyria).

Pigmentation is an important feature in the early stage of the disease known as Xeroderma pigmentosum (*q.v.*) and an equally important feature in the mole, especially should it become malignant.

In all these cases other local disease is present; here we are concerned with those diseases where increase or decrease of the pigment is the only evident alteration.

EPHELIS or LENTIGO.

(ἐπι and ἥλιος—the sun; lens—a lentil.)

Freckles are minute, lenticular accumulations of pigment, and, as the name suggests, occur almost invariably on those parts of the surface which are exposed to the sun. They are most common on the face and arms, and during the summer months. They are found mostly in fair young people, and may be looked upon as an effort of nature to protect the deeper parts from the irritant action of the actinic rays of light. For the region beneath them they play the part of the photographer's red glass. Mr. Alexis Thomson has called my attention to the occurrence of pigmentation, sometimes taking the form of freckles, in connexion with plexiform neuromata, on any part of the surface. The freckles which sometimes appear on all parts of the body in elderly people, are possibly of the same nature as these, and some use for them the term lentigo, and restrict ephelis to the ordinary freckle.

The development of freckles in those subject to them can be prevented by avoidance of exposure to the sun, the hands being protected by gloves, and the face by a veil, brown, red or yellow in colour.

When they have developed, they can be removed by various applications, which however do not prevent the appearance of fresh spots. Practically, the various remedies all produce exfoliation of the epidermis. The most popular is sublimate. It must be most cautiously applied. Half per cent solution in spirit, painted on at night, is quite strong enough to commence with. Stronger solutions do indeed remove the pigmentation, but at the expense of a more or less severe blistering which necessitates confinement to the house. If the patient is ready for such confinement, the method of shelling the skin with resorcin, described on page 142, is much more thorough and successful. The various bismuth salts have a certain depigmentary action, and may be used in ointments, as may boric acid and the peroxide of hydrogen. Unna recommends:—

R.	Adipis Lanæ anhyd.	5j
	Vaselini	5ij
	H ₂ O ₂	5ss
	Hg. Cl.	gr j
	Bismuth Chlorid.	gr. v-xxx

CHLOASMA.

(χλωάσω—to be pale green.)

Chloasma is a diffuse or circumscribed pigmentation of the skin of the face, which is induced, not by external irritation, but, reflexly, by some internal irritant.

It sometimes occurs with hepatic, uterine, or ovarian disease, but the great majority of cases are associated with pregnancy. The spots vary in extent; sometimes they are round or oval in shape, sometimes they extend so as to resemble a dark mask. The tint varies from a light yellowish brown, up to a deep, almost black shade. The discolouration usually disappears with the termination of the pregnancy or the cure of the disease, but is sometimes very persistent.

If local treatment is desired, the same plans may be followed as in dealing with Ephelides.

VITILIGO or LEUCODERMA.

(*Vitulus*—a calf [*spotted?*], or *vitium*—a defect; λευκός—white, and δέρμα—the skin.)

In this disease the disappearance of pigment from the skin and the hairs on it is the *only* anomaly present.

It commences as a round or oval area, which increases in size, while fresh spots develop, until very large areas of the surface are entirely blanched, as shown in Plate XXIX.

Very often the skin immediately margining the patch is more deeply pigmented than the surrounding parts, and conveys the idea that the pigment has been driven from a centre by some centrifugal force. The skin of the rest of the surface, too, is often somewhat darker than normal.

While the disease is much more common, as it is much more striking, in the darker races, it is by no means uncommon in this country, but it often escapes notice, so slight is the contrast presented on the white skin of the Anglo-Saxon.

The disease gives rise to no symptoms, and is of purely cosmetic importance, except that it is sometimes confused by those not familiar with the diseases of the skin with the much more important scleroderma. There should be no difficulty in distinguishing the two, for while in this disease the change is *only evident to the eye*, the skin feeling perfectly normal, in scleroderma there is often hardly any change visible on

inspection, and it is only when an attempt is made to pinch up the skin that the hardness is noted. Vitiligo is entirely free from any danger to life, and gives rise to absolutely no symptoms.

TREATMENT is unsatisfactory. If the patch appears on an exposed part, attempts may be made to induce a certain amount of pigmentation in the white spot by counter-irritation, mild stimulants being applied. The chances of success are however not very great, and the best prospect for the patient is that the disease shall become so extensive that the whole region will be affected. The well known connexion of the supra-renal bodies with pigmentation in relation to Addison's disease has suggested the administration of their substance. The little girl from whom Plate XXIX is taken took several bottles of supra-renal tablets without any benefit.



VITILIGO OR LEUCODERMA.

INDEX.

	PAGE
A LDERSMITH, <i>p.</i> 151, 158; Arning, 199, 202; Auspitz, 18.	
Acanthosis	89
Acarus Scabiei	73
Achorion Schönleini	146
Acne	136
— Varioliformis	142
Actinomycosis	176
Addison's Keloid	232
Adenoma Sebaceum	219
Alcohol, in Eczema	93
Alibert's Keloid	216
Alkalies	13
Alopecia Areata	161
— Seborrhœica	119
Anæsthesia	27
Angio-keratoma	220
Angioma	218
Anidrosis	32
Anthrax	174
— Œdema	175
Antimony	12
Anti-Pruritics	14
Arnica	39
Arsenic	11
Asiatic Pills	123
Astringents	14

B AZIN, <i>p.</i> 51; Bier, 194; Blaxall, 150; Boeck, 198; Boeck, C., 56, 177; Bowles, 44; Bramwell, 123; Brodie, 207, 215; Brooke, 191; Bulkley, 228.	
Bacterium Decalvans	162
Balsam of Peru	76
Baths	15
Bazin's Disease	51
Blood-Vessels	5
Boils	173
Boro-Calamine Lotion	97
Bromide Eruptions	47

	PAGE
Bromidrosis	29
Brooke's Ointment	191
Butterfly Lupus	224

C OHNHEIM, <i>p.</i> 215; Crocker, 12, 26, 30, 39, 78, 80, 106, 123, 129, 130, 162, 166, 203, 210, 228.	
Calamine Lotion	119
Cancer, Rodent	205
— Melanotic	211
Carbolic Acid	14
Carron Oil	24
Caustics	14
Cautery, Pacquelin	194
— Unna	194
Cheiro-Pompholyx	77
Chilblains	55
Chloasma	241
Chloride of Calcium	37
Chondroma	220
Chronidrosis	31
Chrysarobin	124
Cicatrices, Syphilitic	182
Classification	6
Clavus	220
Climate in Eczema	95
Coil Gland	4
Cold Cream	20
Comedo	136
Condyloma	213
Copaiba Rash	46
Corona Veneris	181
Corns	220
Cornu	221
Craw Craw	154
Crystallina	80

D ANIELSEN, <i>p.</i> 198, 203; Doughty, 64; Duhring, 3, 13, 18, 58, 60, 61, 87, 109, 111.	
Dermatalgia	28
Dermatitis Herpetiformis	58

	PAGE
Dermatitis Medicamentosa ..	46
— Venenata	44
Dhobie's Itch	154
Diabetes	25
Diabetic Xanthoma	222
Diachylon Ointment (see Hebra's Ointment).	
Diagnosis, General	7
Drug Eruptions	46
Dysidrosis	77

EICHHOFF, *p.* 24, 141, 237.

— Ecthyma	85
Eczema, Climate in	95
— Diagnosis	89
— Diet in	92
— Drink in	93
— Effect of Soap	94
— — — Water	94
— Erythematous	96
— Etiology	87
— Histo-Pathology	89
— Marginatum	154
— Œdematous	97
— of Anus	106
— — Arms	108
— — Axillæ	104
— — Beard	103
— — Ears	101
— — Eyelids	102
— — Face	102
— — Genitals	105
— — Hands and Feet	108
— — Legs	107
— — Lips	103
— — Neck	104
— — Scalp	101
— — Trunk	104
— Papular	97
— Pustular	100
— Scaly	100
— Vesicular	98
Electrolysis	235
Ephelis	240
Epithelioma	205
Erythema	49
— Bullosum	52
— Induratum Scrofulosorum ..	197
— Iris	52
— Multiforme	54
— Nodosum	51
Erysipelas	172
Erythrasma	237

FOX, Colcott, *p.* 150, 197; Fox, Tilbury, 78, 81.

	PAGE
Favus	145
Feigned Eruptions	48
Fibroma	215
Fissures	106
Frambœsia	178
Freckles	240
Furunculosis	173

GALLOWAY, *p.* 62; Gründ- ler, 16; Gulland, 169.

Glanders	176
Glycogelatin	18
Gummata	182

HANSEN, *p.* 199, 200, 202, 203, 204; Harrison, 160; Hebra, 7, 10, 14, 23, 30, 50, 57, 87, 105, 107, 114, 132, 140, 167, 220; Hut- chinson, 64, 70, 162, 181, 185.

Hair Follicles	3
Harlequin Fœtus	234
Hebra's Ointment	30
— Soap Spirit	114
Herpes Circinatus	153
— Facialis	66
— Genitalis	67
— Iris	52
— Zoster	68
Hirsuties	234
Horns	221
Hydroa	58
— Gravidarum	61
— Puerorum	61
Hyperidrosis	29
Hyperkeratosis Congenitalis ..	234

ICHTHYOL	12
— Ichthyosis	132
Impetigo Circinata	82
— Contagiosa	81
— Herpetiformis	61
— Serosa	82
— Vulgaris	81
Inflammations, Infectious ..	71
— Neurotic	49
— Traumatic	43
Iodabacid	184
Iodide Eruptions	47
— of Potash	13
Itch	72
Itching	2

JACOB, *p.* 206; Jadassohn, 130; James, 222; Jamieson, 12, 42, 103, 128, 164, 171, 232.

KAPOSI, *p.* 76, 123, 210; Koch, 43, 185; Kromayer, 2, 170.

Kaposi's Disease 210
Keloid 216
Kerion 153
Kieselguhr 16

LANG, *p.* 192; Lassar, 21, 103, 116; Leistikow, 21, 30, 40, 56, 115, 172; Lesser, 171; Liddell, 17; Limont, 216, 232; Living, 151, 171.

Lassar's Paste 116
Lentigo 240
Leproma 200
Leprosy, Maculo-Anæsthetic .. 201
— Nodular 199
Leucoderma 241
Lichen Agrius 167
— Marginatus 111
— Planus 167
— Ruber Acuminatus 167
 (see Pityri. Rubra Pilaris)
— Scrofulosorum 197
— Simplex 167
— Urticatus 35
Linimentum Exsiccans 17
Lotions 16
Lupus, Catarrhal 187
— Erythematosus 224
— Fibroid 188
— of Mucous Membrane 190
— Papillomatous 188
— Vulgaris Simplex 185
— Warty 188
Lunula 165
Lymphangioma 218

M'CALL, Anderson, *p.* 211, 228; Macdonald, Angus, 39; Mackenzie, 38, 47; Mibelli, 19, 144; Morris, 6, 12, 116, 130, 131, 132, 152, 156, 157, 170, 171, 180, 195, 237; Morton, 131; Mott, 129.

Malformations 234

Malignant Pustule 174
Massage 232
Mast Cells 223
Melanotic Growths 211
Mercury 12
Microsporon Audouini 151
— Furfur 236
— Minutissimum 238
Miliaria 79
Molluscum Contagiosum 213
— Fibrosum 215
Moles 214
Morococci 112
Morphœa 231
Muscles of Skin 6
Mycosis Fungoides 179
Myoma 220

NASMYTH, *p.* 215; Neebe, 31.

Nævus 214
Nails 165
Nerves of Skin 6
Nettle Rash 33
Neuroma 217
New Growths 205
Nits 84
Noma 174
Norwegian Scabies 75

OILS 24
 Ointments 21
Onychia 165
Onychogryposis 166
Onychomycosis 148, 154
Osteoma 220

PAGET, *p.* 211, 217; Payne, 228; Pelagatti, 19; Pick, 17, 18, 108.

Paget's Disease 211
Parakeratosis 89
Parasiticides 14
Pastes 21
Pediculosis Capitis 83
— Corporis 40
— Pubis 85
Peliosis Rheumatica 53
Pemphigus 61
— Acutus 64
— Foliaceus 65
— Neonatorum 65
— Septic 63

	PAGE
Pemphigus, Vegetans	66
— Vulgaris	62
Pernio	55
Pigmentation, Anomalies of ..	239
— in Lichen	168
— — Syphilis	182
Pityriasis	126
— Rosea	126
— Rubra	128
— — Pilaris	131
— Versicolor	236
Plasters	22
Port Wine Mark	218
Poultice, Starch	15
Powder Bags	16
Powders	16
Prickly Heat	80
Prurigo	56
Pruritus	25
— Ani	26
— Hiemalis	26
Psoriasis	120
Purpura	37
— Hæmorrhagica	38
— Rheumatica	53

Q UINCKE, <i>p.</i> 35.	
Quincke's Œdema	35
Quinine	13

R INGER, <i>p.</i> 174.	
Reducing Agents	14
Rheumatism	51
Rhinophyma	117
Rhinoscleroma	178
Ringworm	149
— Method of staining Fungus of	152
Rodent Ulcer	205
Röntgen Rays	235
Rosacea	117
Rupia	181

S ABOURAUD, <i>p.</i> 137, 142, 162, 164; Sack, 38; Schiff, 18; Schutz, 230; Shattuck, 214; Skinner, 17; Smith, Pye, 34, 137; Stiles, 169.	
Salicin	52
Salicylate of Soda	52
Salicylic Acid	13
Salve Muslin	22
— Stick	22
Sarcoma	212

	PAGE
Scabies	72
Scarification	229
Sclerema	233
Scleroderma	230
Scrofuloderma	196
Scutulum	145
Sebaceous Gland	4
Seborrhœa	109
— Corporis	111
Seborrhœic Dermatitis	109
"Shelling" the Skin, Method of	142
Shingles	68
Skin, Structure of	2
Soap Spirit	114
Soaps	23
Splenic Fever	175
Sudamina	80
Sulphide of Calcium	139
Sulphur	12
Sunburn	44
Sycosis	143
— Menti	154
Syphilis	180

TAENZER, *p.* 27; Thin,
162, 164; Thomson, Alexis,
240.

Tar	98
Terra Silicea	16
Tinea Barbae	154
— Capitis	149
— Circinata	153
Traumaticin	18
Treatment, General	10
Tricophyton Megalosporon ..	151
Tricophytosis	149
Tuberculosis	185

UNNA, *p.* 3, 5, 7, 10, 17, 18,
20, 21, 22, 23, 27, 37, 39,
45, 49, 58, 62, 65, 80, 82,
87, 89, 91, 110, 112, 113,
124, 137, 156, 157, 170,
174, 179, 186, 198, 200,
210, 218, 224, 227.

Ulerythema Centrifugum ..	224
Urticaria	33
— Bullosa	35
— Giant	35
— Hæmorrhagica	35
— Papulosa	35
— Pigmentosa (see Xanthelas- moidea).	

	PAGE		PAGE
VARNISHES.. .. .	17	"X" Rays	235
Verruca	212	Xanthelasma (see Xan-	
Vitiligo	241	thoma).	
Vlemmingkx's Solution ..	141	Xanthelasmaidea	223
		Xeroderma	132
		— Pigmentosum	210
WHITE, 228; Whitla, 184;		YAWS	178
Willan, 6, 56; Williams,			
78; Wilson, Erasmus,		ZONA (see Zoster).	
6, 85, 167; Wright, 37.		Zoster	68
Warts	212		
Wilkinson's Ointment ..	76		



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